



INSTITUTE
OF THE MOTOR
INDUSTRY

IMI QUALIFICATION



Assessment Record for

IMI Level 3 NVQ Diploma in Bus and Coach Engineering and Maintenance (Mech/Elec)

I.D: 600/0323/6

*To be used in conjunction with Learner Guidance and Candidate
Assessment Summary.*

For assessor use only: Assessor Verifier Guidance

CENTRE INFORMATION

Please be aware that any **legislation** referred to in this qualification may be subject to amendment/s during the life of this qualification. Therefore IMI Approved Centres must ensure they are aware of and comply with any amendments, e.g. to health and safety legislation and employment practices.

Please be aware that **vehicle technologies** referred to in this qualification reflect current practice, but may be subject to amendment/s, updates and replacements during the life of this qualification. Therefore IMI Approved Centres must ensure they are aware of the latest developments and emerging technologies to ensure the currency of this qualification.

Please note: the relevance of the information contained in the **unit content** will vary depending upon the vehicle types being worked upon. The unit content is for guidance only and is not meant to be prescriptive.

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Requests should be made in writing and addressed to:
Institute of the Motor Industry (IMI)
Fanshaws, Brickendon, Hertford SG13 8PQ



CONTACT SHEET

Learner Name:	
Learner Registration No:	
Learner Address:	
Learner Tel No:	
Learner Email:	
Employer Contact:	
Employer Name & Address:	
Employer Tel No:	

Please complete as appropriate:	
Witness Name:	Witness Name:
Witness Job Title:	Witness Job Title:
Witness Signature:	Witness Signature:
Witness Name:	Witness Name:
Witness Job Title:	Witness Job Title:
Witness Signature:	Witness Signature:
Assessor Name:	Assessor Name:
Assessor Signature:	Assessor Signature:
Assessor Name:	
Assessor Signature:	
Internal Verifier Name:	Internal Verifier Name:
Internal Verifier Signature:	Internal Verifier Signature:



**IMI Level 3 NVQ Diploma in Bus and Coach Engineering and Maintenance
(Mech/Elec)
I.D: 600/0323/6**

In order to pass the qualification, learners must achieve a minimum of 70 credits from the following groups:

Group A: 63 credits from mandatory units

Group B: A minimum of 7 credits from the optional units

A minimum of 48 credits must be achieved at Level 3 or above.

TQT = 704

Group A: Mandatory Units

Unit Ref:	Unit Title	GLH	Unit Level	Credit Value
BACEM 1	Contribute to Safe Working Practices in Bus/Coach Engineering and Maintenance (Y/502/6302)	34	2	4
BACEM 2	Contribute to Safe Housekeeping practices in Bus/Coach Engineering and Maintenance (H/502/6304)	56	2	10
BACEM 12	Diagnose Mechanical Faults in Bus/Coach Systems and Components (R/502/6315)	76	3	11
BACEM 13	Diagnose Electrical Faults in Bus/Coach Systems and Components (Y/502/6316)	44	3	11
BACEM 16	Repair Mechanical Faults in Bus/Coach Systems and Components (L/502/6359)	76	3	7
BACEM1 7	Repair Electrical Faults in Bus/Coach Systems and Components (F/502/6360)	54	3	8
BACEM 21	Conduct Inspection of Buses/Coaches (Y/502/6364)	26	3	6
BACEM 42	Evaluate and Develop Your Own Knowledge, Understanding and Skills in the Bus/Coach Engineering and Maintenance Environment (K/5026336)	30	3	6

Group B: Optional Units

Unit Ref:	Unit Title	GLH	Unit Level	Credit Value
BACEM 3	Achieve Effective Working Relationships with Colleagues in Bus/Coach Engineering and Maintenance (K/502/6305)	27	2	4
BACEM 4	Use Hand Tools and Equipment in Bus/Coach Engineering and Maintenance (M/502/6306)	29	2	4
BACEM 8	Carry out Scheduled Mechanical Maintenance on Buses/Coaches (A/502/6311)	47	3	7
BACEM 9	Carry out Scheduled Electrical Maintenance on Buses/Coaches (F/502/6312)	58	3	8
BACEM 18	Recondition Mechanical Components in Buses/Coaches (J/502/6361)	60	3	8
BACEM 19	Recondition Electrical Faults in Bus/Coach Systems and Components (L/502/6362)	58	3	7
BACEM 20	Complete Thermal Joining of Bus/Coach Components (D/502/6365)	29	3	5
BACEM 30	Drive the Bus/Coach for Testing and Vehicle Recovery (J/502/6327)	36	2	6
BACEM 31	Provide Roadside Assistance for Broken Down Buses/Coaches (L/502/6328)	46	2	7
BACEM 32	Install Ancillary Systems and Components in Buses/Coaches (R/502/6329)	49	3	7
BACEM 33	Diagnose Mechanical/Electrical Faults in Ancillary Systems and Components in Buses/Coaches (J/502/6330)	76	3	13
BACEM 34	Repair Mechanical/Electrical Faults in Ancillary Systems and Components in Buses/Coaches (L/502/6331)	80	3	11
BACEM 35	Establish Customer Technical Requirements for Buses/Coaches (R/502/6332)	14	3	4
BACEM 36	Improve the Service Provided to Customers of Buses/Coaches (Y/502/6333)	36	2	5
BACEM 37	Carry Out Roadside Recovery of Buses/Coaches (D/502/6334)	31	3	8
BACEM 38	Plan and Organise Work of Self and Others (T/502/6114)	40	3	5
BACEM 39	Support Learners by Coaching in the Workplace (L/502/6118)	26	3	4
BACEM 40	Support Learners by Mentoring in the Workplace (R/502/6119)	20	3	3



Learner Name:

UNIT REF: BACEM 1	UNIT TITLE: CONTRIBUTE TO SAFE WORKING PRACTICES IN BUS/COACH ENGINEERING AND MAINTENANCE
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Level: 2	Route: Competence	Credit Value: 4	GLH: 34
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 1

Rationale: The purpose of this unit is for learners to demonstrate occupational competence in contributing to safe working practices in engineering and maintenance in the bus/coach industry for the welfare of self and others.

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1 Be able to contribute to safe working practices in engineering and maintenance of bus/coaches	1.1 Observe relevant statutory health and safety regulations and organisational procedures in the workplace 1.2 Identify appropriate personal protective clothing to wear and relevant equipment to use to carry out the task 1.3 Undertake an inspection of the required safety equipment to ensure that it is fit for purpose and is used in accordance with suppliers', manufacturers' and organisational recommendations and instructions 1.4 Safely isolate electrical, hydraulic and pneumatic equipment before making any adjustments 1.5 Demonstrate how to lift and handle equipment and materials safely ensuring where appropriate that the requirements for the licensed use of lifting equipment is adhered to 1.6 Implement the relevant controls for substances which are hazardous to self, other employees and the general public in accordance with COSHH regulations and manufacturer's and organisational recommendations and instructions 1.7 Undertake safe working practices within limits of own responsibility 1.8 Clearly and effectively communicate health and safety issues 1.9 Clearly and accurately report potential hazards to the appropriate person 1.10. In accordance with organisational policies and procedures report any accidents, incidents and emergencies 1.11. Within own area of responsibility correctly use emergency equipment 1.12. Take action to ensure that the fire alarm and evacuation procedures are followed 1.13. Accurately report where replenishment of used safety equipment is required		



2 Know the safe working practices in engineering and maintenance of bus/coaches	<p>2.1. Describe the relevant safe working procedures when working with equipment, materials and tools which are covered by the following:</p> <ul style="list-style-type: none">a. Health and Safety at Work Act (HASWA)b. Organisational health and safety policy and proceduresc. Control of Substances Hazardous to Health (COSHH regulations)d. Personal Protective Equipment (PPE regulations)e. Codes of practice relevant to vehicle maintenance activitiesf. Role of safety representatives <p>2.2. Describe the different types of personal protective clothing and equipment available including protection for the head, skin, hands and feet, visibility, noise protection, respiratory and facial protection</p> <p>2.3. Explain what safety equipment is available to protect individuals, work colleagues and/or the general public.</p> <p>2.4. Explain the relevant supplier and manufacturer instructions for the safe use and storage of tools, equipment, materials and products</p> <p>2.5. Explain the correct safe lifting and handling techniques for the size, mass and shape of the load</p> <p>2.6. Explain the importance of removing pollution safely including toxic gases and waste</p> <p>2.7. Clarify the concept and definition of a hazard and risk</p> <p>2.8. Explain the importance of reporting hazards and risks</p> <p>2.9. Explain the differences between an incident, accident and emergency</p> <p>2.10. Explain the importance of communicating health and safety matters and the different methods which can be used to do this.</p> <p>2.11. Explain where different types of emergency equipment, including alarms, extinguishers and first aid equipment can be located</p> <p>2.12. Explain the procedures for emergencies and evacuation</p>		
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EVIDENCE REQUIREMENTS

BACEM1			
1. Produce evidence of use of personal and vehicle protection, cleaning the work environment and disposal of waste on 4 separate occasions .	Evidence Ref:		
2. Be observed by an approved assessor carrying out the above on at least one occasion	Observation Ref:		
3. Produce evidence of identifying risks which may result from at least 2 of the items listed below:	Evidence Ref:		
	the use and maintenance of machinery or equipment		
the use of materials or substances			
working practices which do not conform to laid down policies			
unsafe behaviour			
accidental breakages and spillages			
environmental factors			
4. Produce evidence of identifying risks on at least 2 occasions.	Evidence Ref:		
5. Produce evidence of following at least 4 of the workplace policies listed below:	Evidence Ref:		
	the use of safe working methods and equipment		
the safe use of hazardous substances			
smoking, eating, drinking and drugs			
what to do in the event of an emergency			
personal presentation			
6. Produce evidence of following workplace policies on at least 2 occasions	Evidence Ref:		
Simulation is NOT allowed for this unit			



It is recommended that the following are covered when teaching and assessing this unit:

The range of safety equipment available to protect individuals should include the following:

- Exhaust and fume extraction
- Dust extraction
- Safety guards
- Containment stores
- Insulation
- Welding screens
- Walkways and guard rails
- Machine isolators

Lifting and handling techniques should include as appropriate:

- Hoists
- Cranes
- Trolleys
- Jacks
- Manual lifting

Learners should use a range of equipment, machinery and materials including gases in accordance with statutory regulations and manufacturers and organisational recommendations and instructions.

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 2	UNIT TITLE: CONTRIBUTE TO SAFE HOUSEKEEPING PRACTICES IN BUS/COACH ENGINEERING AND MAINTENANCE
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Level: 2	Route: Competence	Credit Value: 10	GLH: 56
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 2

Rationale: The purpose of this unit is for learners to demonstrate occupational competence in achieving effective house keeping practices in Bus/Coach engineering and maintenance

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1. Be able to contribute to safe housekeeping practices	1.1. Demonstrate how to keep immediate work area in a clean, tidy and hazard free state reporting where appropriate any hazards which need to be dealt with 1.2. Take action to ensure that all emergency exits and designated walkways in immediate work area are free from obstructions at all times, reporting obstructions where appropriate 1.3. Demonstrate how to deal with spillages promptly and effectively 1.4. Take action to store materials, tools and equipment safely in approved locations 1.5. Assess all tools and equipment to ensure they are fit for purpose in line with manufacturer guidelines 1.6. Report faults to tools and equipment accurately and promptly in accordance with organisational procedures and in line with manufacturer guidelines 1.7. Under supervision isolate machines and equipment from the power source ensuring that moving parts are stopped prior to cleaning operations in accordance with manufacturers' recommendations, guidelines and instructions 1.8. Using the appropriate cleaning agents and cleaning equipment in accordance with manufacturers' instructions 1.9. Dispose of waste material, used cleaning agents and debris safely and in line with relevant legislation and workshop procedures 1.10. Establish substances and discharges which are hazardous to health and ensure that they are stored or disposed of safely and in accordance with COSHH regulations and workshop procedures 1.11. Implement housekeeping practices within limits of own responsibility		



<p>2. Know how to contribute to housekeeping practices</p>	<p>2.1. Explain the importance of cleaning, servicing, storing and maintaining tools and equipment</p> <p>2.2. Illustrate how to detect tool and equipment defects</p> <p>2.3. Explain the importance of storing expensive, fragile and vulnerable tools and equipment safely</p> <p>2.4. Explain why it is important to report defects and discrepancies to tools and equipment</p> <p>2.5. Explain the reporting procedure for tool and equipment defects</p> <p>2.6. Explain why it is important to keep all emergency exits and walkways clear from obstructions</p> <p>2.7. Explain the cleaning schedules and the types of warnings which are appropriate for cleaning operations</p> <p>2.8. Explain why it is important to deal promptly with spillages</p> <p>2.9. Explain the range and limitations of cleaning methods, materials and equipment available</p> <p>2.10. Describe the hazards associated with particular cleaning materials and the reporting procedures associate with them</p> <p>2.11. Explain the organisational procedures for isolating machinery</p> <p>2.12. Explain organisational and statutory requirements for the storage, disposal, discharge or containment of substances used in vehicle engineering and maintenance workshops</p> <p>2.13. Explain the relevant supplier and manufacturer instructions for the safe cleaning of tools, equipment, materials and products</p>		
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EVIDENCE REQUIREMENTS

BACEM2			
1. Produce 3 pieces of evidence of keeping the immediate work area in a clean, tidy and hazard free state and that all emergency exits and designated walkways in immediate work area are free from obstructions at all times- reporting where appropriate any hazards which need to be dealt with	Evidence Ref:		
2. Produce 3 pieces of evidence of how to deal with spillages safely, promptly and effectively, and by using appropriate cleaning agents and equipment	Evidence Ref:		
3. Produce 3 pieces of evidence of checking and storing materials, tools and equipment safely in approved locations- reporting faults accurately and promptly	Evidence Ref:		
4. Produce 3 pieces of evidence of isolating machines and equipment from the power source ensuring that moving parts are stopped prior to cleaning operations in accordance with manufacturers' recommendations, guidelines and instructions	Evidence Ref:		
5. Produce 3 pieces of evidence of disposing of waste material, used cleaning agents and debris safely and in line with relevant legislation and workshop procedures	Evidence Ref:		
6. Be observed by an approved assessor carrying out each of the above on at least one occasion	Observation Ref:		
Simulation is NOT allowed for this unit			

It is recommended that the following are covered when teaching and assessing this unit:

This unit is not a stand alone unit. This must be taken in conjunction with Unit 1 Contribute to Safe Working Practices in Bus/Coach Engineering and Maintenance and also along side any of the units related to Bus/Coach Engineering and Maintenance.

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 12	UNIT TITLE: DIAGNOSE MECHANICAL FAULTS IN BUS/COACH SYSTEMS AND COMPONENTS
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Level: 3	Route: Competence	Credit Value: 11	GLH: 76
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 22

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in diagnosing a range of mechanical faults on bus/coach systems and components in accordance with organisational procedures. Learners will be required to interpret the instructions, select the correct diagnostic procedure and tools, diagnose faults and report their findings and recommended repair procedures to the supervisor.

LEARNING OUTCOMES		ASSESSMENT CRITERIA		Ref No	Date
The Learner will:		The Learner can:			
1	Be able to diagnose mechanical faults in systems and components	1.1. Assess and review the information on the problems associated with the products or assets			
		1.2. Undertake an investigation to establish the cause of the faults			
		1.3. Select and apply diagnostic techniques, tools and aids to locate faults			
		1.4. Undertake the fault diagnosis within the time limits laid down in organisational procedures and inform the appropriate people if the time limit cannot be achieved			
		1.5. Identify what implications the fault may cause with other work and with safety			
		1.6. Summarise the evidence gained to make valid conclusions about the nature and probable cause of the fault			
		1.7. Accurately record details of the extent and location of the fault			

<p>2 Know how to diagnose mechanical faults in systems and components</p>	<p>2.1. Explain the different types of diagnostic aids available to diagnose a range of faults</p> <p>2.2. Describe what the possible causes of systems faults are and the best method used to diagnose these</p> <p>2.3. Explain how faults will be diagnosed in the following systems including:</p> <ul style="list-style-type: none"> a. engines, lubrication and cooling systems and their associated components b. fuel management and their associated components c. transmission systems and their associated components d. braking systems and their associated components e. steering and suspension and their associated components <p>2.4. Explain the preparation procedures required to ensure accuracy of the diagnosis</p> <p>2.5. Describe the different diagnostic methods and techniques which can be employed to diagnose faults to include the use of systematic testing using visual, aural, measurement based readings and simulations</p> <p>2.6. Explain how diagnostic results are determined and analysed</p> <p>2.7. Explain how workshop test equipment is operated to diagnose mechanical faults and why it is important to leave it after use in a clean and workable condition</p> <p>2.8. Explain the control procedures for reporting defects of the test equipment</p> <p>2.9. Explain the risk assessment procedures that have to be adopted when undertaking a diagnostic task</p> <p>2.10. Explain why it is important to complete fault diagnosis within the agreed time and to report the conclusions accurately including:</p> <ul style="list-style-type: none"> a. safety implications b. potential follow up work c. purchase requests d. time and cost implications e. good customer service <p>2.11. Describe the way each different form of diagnostic is reported and presented to ensure clarity of detail and understanding including:</p> <ul style="list-style-type: none"> a. comparative results b. written reports c. oral reports d. visual evidence e. faults cleared <p>2.12. Explain the extent of own responsibility and to whom problems that cannot be solved should be reported to</p>		
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EVIDENCE REQUIREMENTS

BACEM12				
1. Produce evidence of carrying out the diagnosis of 8 mechanical units and components from at least 4 different vehicles covering 8 different systems out of the 12 listed below:	Evidence Ref:			
engine mechanical systems				
cooling systems				
air supply and exhaust systems				
fuel systems				
lubrication systems				
clutch or fluid coupling				
gearbox (manual or automatic)				
drive line (shafts, couplings, hubs and bearings)				
final drive				
steering				
suspension				
braking				
2. Be observed by an approved assessor on at least one occasion	Observation Ref:			
Simulation is NOT allowed for this unit				

Learners must understand the factors governing the planning and application of scheduled mechanical maintenance activities and know the statutory and company standards in adequate depth to carry out the activities to the required specification. Applying safe working practices will be a key issue throughout.

A diagnosis can be defined in this unit as one that may involve interaction between two or more vehicle systems and components.

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 13	UNIT TITLE: DIAGNOSE ELECTRICAL FAULTS IN BUS/COACH SYSTEMS AND COMPONENTS
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Level: 3	Route: Competence	Credit Value: 11	GLH: 76
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 23

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in diagnosing a range of electrical faults on bus/coach systems and components in accordance with approved procedures. Learners will be required to interpret the instructions, select the correct diagnostic procedure and tools, diagnose faults and report their findings and recommended repair procedures to the supervisor.

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1. Be able to diagnose electrical faults in systems and components	1.1. Assess and review the information on the problems associated with the products or assets 1.2. Undertake an investigation to establish the cause of the faults 1.3. Select and apply diagnostic techniques, tools and aids to locate faults 1.4. Undertake the fault diagnosis within the time limits laid down in organisational procedures and inform the appropriate people if the time limit cannot be achieved 1.5. Identify what implications the fault may cause with other work and with safety 1.6. Summarise the evidence gained to make valid conclusions about the nature and probable cause of the fault 1.7. Accurately record details of the extent and location of the fault		
2. Know how to diagnose electrical faults in systems and components	2.1. Explain the different types of diagnostic aids available to diagnose a range of faults 2.2. Describe what the possible causes of systems faults are and the best method used to diagnose these 2.3. Explain how faults will be diagnosed in the following systems including: <ul style="list-style-type: none"> a. battery and charging systems and their associated components b. engine starting systems and their associated components c. engine electrical systems and their associated components d. body electrical systems and their associated components e. chassis electrical systems and their associated components f. advanced electronic systems and their associated components g. braking h. transmission i. suspension j. electrical control systems 		



	<p>2.4. Explain the preparation procedures required to ensure accuracy of the diagnosis</p> <p>2.5. Describe the different diagnostic methods and techniques which can be employed to diagnose faults to include the use of systematic testing using visual, aural, measurement based readings and simulations</p> <p>2.6. Explain how diagnostic results are determined and analysed</p> <p>2.7. Explain how workshop test equipment is operated to diagnose electrical faults and why it is important to leave it after use in a clean and workable condition</p> <p>2.8. Explain the control procedures for reporting defects of the test equipment</p> <p>2.9. Explain the risk assessment procedures that have to be adopted when undertaking a diagnostic task</p> <p>2.10. Explain why it is important to complete fault diagnosis within the agreed time and to report the conclusions accurately including:</p> <ul style="list-style-type: none">a. safety implicationsb. potential follow up workc. purchase requestsd. time and cost implicationse. good customer service <p>2.11. Describe the way each different form of diagnostic is reported and presented to ensure clarity of detail and understanding including:</p> <ul style="list-style-type: none">a. comparative resultsb. written reportsc. oral reportsd. visual evidencee. faults cleared <p>2.12. Explain the extent of own responsibility and to whom problems that cannot be solved should be reported to</p>		
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**EVIDENCE REQUIREMENTS**

BACEM13				
1. Produce evidence of carrying out the diagnosis of 4 Electrical faults on at least 4 different vehicles covering at least 3 different systems out of the 6 listed below:	Evidence Ref:			
heating and ventilation systems				
security and alarm systems				
comfort and convenience systems				
infotainment / communication systems				
engine starting and charging systems				
mutlplexing systems				
2. Be observed by an approved assessor on at least one occasion	Observation Ref:			
Simulation is NOT allowed for this unit				

Learners must understand the factors governing the planning and application of scheduled electrical maintenance activities and know the statutory and organisational standards in adequate depth to carry out the activities to the required specification. Applying safe working practices will be a key issue throughout.

A diagnosis can be defined in this element as one that may involve interaction between two or more vehicle systems and components.

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 16	UNIT TITLE: REPAIR MECHANICAL FAULTS IN BUS/COACH SYSTEMS AND COMPONENTS
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Level: 3	Route: Competence	Credit Value: 7	GLH: 44
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 25

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in repairing mechanical faults on bus/coach systems and components in accordance with organisational procedures. Learners will be required to carry out a range of previously identified repair activities that on completion meet organisational and regulatory standards.

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1 Be able to repair mechanical faults in systems and components	1.1. Identify and agree with supervisor the relevant specifications for the component to be repaired 1.2. Take the appropriate action to prepare the component for repair 1.3. Within the agreed timescale carry out the repairs using the approved materials, components, methods and procedures 1.4. Assess the work undertaken and ensure that the repaired component meets the specified operating conditions 1.5. Accurately complete the relevant records of the repair work undertaken		
2 Know how to repair mechanical faults in systems and components	2.1. Explain the different types of constraints which can influence the repair method chosen 2.2. Explain the layout and operation of bus/coach systems and their associated components 2.3. Explain how to repair faults in bus/coach systems and components 2.4. Describe the different methods undertaken for repairing the main bus/coach systems 2.5. Explain what checks need to be carried out on a completed repair to ensure the repair meets organisational and regulatory standards 2.6. Explain how to operate workshop equipment and tools used to repair mechanical faults 2.7. Explain why it is important to leave workshop equipment in a clean and workable condition after use and what the control procedures are for reporting defects 2.8. Describe how the different types of repair activities are reported and presented to ensure clarity and accuracy of detail 2.9. Explain the importance of reporting the progress and completion of a repair which should include the provision of information on the parts used, follow up work and potential problems 2.10. Explain the extent of own responsibility and to whom problems that cannot be solved should be reported to		



EVIDENCE REQUIREMENTS

BACEM16				
1. Produce evidence of carrying out the repair of 8 mechanical units and components from at least 4 different vehicles covering 8 different systems out of the 12 listed below:	Evidence Ref:			
engine mechanical systems				
cooling systems				
air supply and exhaust systems				
fuel systems				
lubrication systems				
clutch or fluid coupling				
gearbox (manual or automatic)				
drive line (shafts, couplings, hubs and bearings)				
final drive				
steering				
suspension				
braking				
2. Be observed by an approved assessor on at least one occasion	Observation Ref:			
Simulation is NOT allowed for this unit				

Learners must comply with organisational policy and procedures and statutory requirements for the repair activities undertaken and report any problems to the relevant authority. The learner will work to a specification agreed with their supervisor. If, in the course of the repair, this specification requires changing or modifying the learner will need to initiate an alternative route without compromising the quality of the repair.

A repair is defined in this unit as one which may involve interaction between two or more vehicle systems and components. A range of repair tools are to be used to include as appropriate: hand tools, general workshop equipment, removers and replacers, joining equipment, electrical and electronic testers, brake testing equipment, emissions tester, measuring equipment.

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 17	UNIT TITLE: REPAIR ELECTRICAL FAULTS IN BUS/COACH SYSTEMS AND COMPONENTS
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Level: 3	Route: Competence	Credit Value: 8	GLH: 54
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 26

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in repairing electrical faults on bus/coach systems and components in accordance with organisational procedures. Learners will be required to carry out a range of previously identified repair activities that on completion meet organisational and regulatory standards.

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1. Be able to repair electrical faults in systems and components	1.1. Identify and agree with supervisor the relevant specifications for the component to be repaired 1.2. Take the appropriate action to prepare the component for repair 1.3. Within the agreed timescale carry out the repairs using the approved materials, components, methods and procedures 1.4. Assess the work undertaken and ensure that the repaired component meets the specified operating conditions 1.5. Accurately complete the relevant records of the repair work undertaken		
2. Know how to repair electrical faults in systems and components	2.1. Explain the different types of constraints which can influence the repair method chosen 2.2. Explain the layout and operation of bus/coach systems and their associated components 2.3. Explain how to repair faults in bus/coach systems and components 2.4. Describe the different methods undertaken for repairing the main bus/coach systems 2.5. Explain what checks need to be carried out on a completed repair to ensure the repair meets organisational and regulatory standards 2.6. Explain how to operate workshop equipment and tools used to repair mechanical faults 2.7. Explain why it is important to leave workshop equipment in a clean and workable condition after use and what the control procedures are for reporting defects 2.8. Describe how the different types of repair activities are reported and presented to ensure clarity and accuracy of detail 2.9. Explain the importance of reporting the progress and completion of a repair which should include the provision of information on the parts used, follow up work and potential problems 2.11. Explain the extent of own responsibility and to whom problems that cannot be solved should be reported to		

**EVIDENCE REQUIREMENTS**

BACEM17				
1. Produce evidence of carrying out the repair of 4 Electrical faults on at least 4 different vehicles covering at least 3 different systems out of the 6 listed below:	Evidence Ref:			
heating and ventilation systems				
security and alarm systems				
comfort and convenience systems				
infotainment / communication systems				
engine starting and charging systems				
mutlplexing systems				
2. Be observed by an approved assessor on at least one occasion	Observation Ref:			
Simulation is NOT allowed for this unit				

Learners must comply with organisational policy and procedures and statutory requirements for the repair activities undertaken and report any problems to the relevant authority. The learner will work to a specification agreed with their supervisor. If, in the course of the repair, this specification requires changing or modifying the learner will need to initiate an alternative route without compromising the quality of the repair.

A repair is defined in this unit as one which may involve interaction between two or more vehicle systems and components. A range of repair tools are to be used to include as appropriate: hand tools, general workshop equipment, removers and replacers, joining equipment, electrical and electronic testers, brake testing equipment, emissions tester, measuring equipment.

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 21	UNIT TITLE: CONDUCT INSPECTIONS OF BUSES/COACHES
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Level: 3	Route: Competence	Credit Value: 6	GLH: 26
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 18

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in conducting a complete inspection of the full range of buses/coaches and their associated systems in accordance with organisational procedures. Learners will be required to compile reports and records of the inspection activities undertaken ensuring the conditions of the Operator’s Licence (‘O’ licence) are complied with. Learners will carry out bus/coach inspections and checks which may include: pre-delivery requirements, first use, maintenance inspections, pre MOT inspection, safety inspections and post repair checks

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1 Be able to carry out bus/coach inspections	1.1. Identify and follow the correct specification for the product or equipment being inspected 1.2. Identify and confirm which inspection checks are to be made and what acceptance criteria needs to be used 1.3. Using the correct equipment carry out the inspection as specified 1.4. Identify any variations from the specification and prioritise these 1.5. Record accurately the inspection undertaken in the correct format 1.6. Pass on information to the appropriate user		
2 Know how to carry out bus/coach inspections	2.1. Explain the range of inspection techniques which can be used 2.2. Explain the critical tolerances, standards and specifications contained within relevant sources of information to include: a. The VOSA tester’s manual b. categorisation of VOSA defects manual c. group or company engineering manual d. VOSA guide to maintaining roadworthiness e. manufacturers’ workshop manuals f. detailed engineering drawings 2.3. Explain how to carry out vehicle inspections for the full range of passenger carrying vehicles determined by the conditions of the ‘O’ licence using efficient and safe methods 2.4. Explain how inspection standards are maintained including: a. VOSA examiners b. technical assessments c. spot checks 2.5. Explain what the prohibition notices used by the police and VOSA Inspectorate are used for		

	<p>2.6. Describe what is meant by prohibitions, exemptions, discretions and impounding when inspecting a vehicle and how they are used</p> <p>2.7. Explain what actions and responsibilities are required to maintain vehicle roadworthiness</p> <p>2.8. Explain why specialised equipment is calibrated prior to a test to include:</p> <ul style="list-style-type: none"> a. brake tester b. exhaust emissions tester c. headlamp aligner d. torque wrench <p>2.10. Explain what the authorisation procedures are for specialised equipment</p> <p>2.11. Describe what measures are in place to ensure that inspection tools, equipment and facilities are maintained and serviced prior to inspections</p> <p>2.12. Explain what measuring equipment is available to verify the vehicle standard to include brake tester, emissions tester and headlamp aligner</p> <p>2.13. Explain how to conduct inspections on bus/coach systems</p> <p>2.14. Describe the visual and test operations to support the inspection activity</p> <p>2.15. Explain the importance of critical tolerances to pass/fail testable items</p> <p>2.16. Describe the method used to record inspection items</p> <p>2.17. Explain the importance of clear and accurately completed paperwork in relation to maintaining the "O" licence</p>		
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**EVIDENCE REQUIREMENTS**

BACEM21					
1. Produce evidence of carrying out 5 inspections on at least 4 different vehicles covering all 3 types of inspection:	Evidence Ref:				
Pre-MOT inspection					
Scheduled safety inspections (PMI)					
Daily vehicle checks					
2. Be observed by an approved assessor on at least one occasion	Observation Ref:				
Simulation is NOT allowed for this unit					

Vehicle inspection activities must be accurate and completed to a high standard as required by organisations', manufacturers' and regulatory expectations. They must be reported and presented for clarity, accuracy and safe storage of safety inspection data. The reporting procedure must include:

- Record identification section
- Non-applicable items
- Pass items
- Defect items
- Description of the repair
- Record results, signature and dates
- File and secure records

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 42	UNIT TITLE: EVALUATE AND DEVELOP OWN KNOWLEDGE, UNDERSTANDING AND SKILLS IN THE BUS/COACH ENGINEERING AND MAINTENANCE ENVIRONMENT
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Level: 3	Route: Competence	Credit Value: 6	GLH: 30
Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 41			
Rationale: The purpose of this unit is for learners to demonstrate occupational competency in evaluating and developing own knowledge, understanding and skills			

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1 Be able to evaluate own performance	1.1. Identify what is required in the engineering and maintenance roles including: <ul style="list-style-type: none"> a. knowledge, understanding and skills b. standards and competence frameworks c. organisational, legal and licensing requirements 1.2. Evaluate own performance against the identified role and identify any gaps 1.3. Seek and analyse feedback from others on personal performance 1.4. Create and maintain a reflective log and use this to evaluate the outcome of own performance 1.5. Identify any gaps in work skills, knowledge and understanding and any training needs required to develop skills and knowledge		
2 Know how to evaluate own performance	2.1. Explain the knowledge, understanding and skills needed to carry out role including: <ul style="list-style-type: none"> a. training skills b. communication skills c. knowledge of regulations d. understanding of organisation and how it operates 2.2. List and describe the relevant standards of own job role 2.3. Describe organisational and legal requirements relevant to own job role 2.4. Explain what procedures are in place to evaluate own performance 2.5. Explain how to obtain feedback on own performance including feedback from learners and other professionals 2.6. Describe the use of a reflective log 2.7. Explain how gaps in skills and knowledge can affect own performance and that of the organisation 2.8. Explain the different types of development opportunities that are available within the organisation		



3 Be able to plan for continuous professional development	3.1. Set own objectives for knowledge, understanding and skills 3.2. Draw up a personal development plan for developing knowledge, understanding and skills to meet own objectives 3.3. Change plan as industry changes occur 3.4. Identify learning opportunities 3.5. Establish a system for recording training and development activities 3.6. Discuss and agree how to get relevant development and feedback		
4 Know and understand how to plan for continuous professional development	4.1. Explain how to set realistic objectives and priorities 4.2. Describe the types of development opportunities that are available in the engineering and maintenance environment 4.3. Explain the sources of information on the industry and on other professional initiatives 4.4. Explain how to evaluate potential development opportunities 4.5. Explain how to evaluate the benefit of training and other forms of development 4.6. Explain how to monitor own progress against the development plan 4.7. Explain the relevant organisational and legal requirements		

EVIDENCE REQUIREMENTS

In identifying their development needs, learners will have to balance their needs with those of the organisation and comply with any organisational, legal and licensing requirements.

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 3	UNIT TITLE: ACHIEVE EFFECTIVE WORKING RELATIONSHIPS WITH COLLEAGUES IN BUS/COACH ENGINEERING AND MAINTENANCE
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Level: 2	Route: Competence	Credit Value: 4	GLH: 27
Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 2			
Rationale: The purpose of this unit is for learners to demonstrate occupational competence in achieving effective working relationships with colleagues in Bus/Coach engineering and maintenance			

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1 Be able to achieve effective working relationships with colleagues	1.1 Deal with a request from colleagues without disrupting own work 1.2 Take action to carry out work within agreed timescales 1.3 Record and report back accurately and promptly information required by colleagues 1.4 Where difficulties in working relationships or work practices arise follow company procedures 1.5 Identify where appropriate potential areas of conflicts with colleagues 1.6 Identify a solution in dealing with a potential conflict situation with colleagues		
2 Know the importance of effective working relationships with colleagues	2.1. Explain the need for effective working relationships and goodwill in the workplace 2.2. Describe organisational standards and guidelines relating to behaviour in the workplace 2.3. Outline how to balance giving help to colleagues with undertaking own workload 2.4. Describe the limits of own responsibilities and those of colleagues 2.5. Illustrate an awareness of the learning needs of colleagues who are being trained 2.6. Explain organisational procedures for dealing with and discussing difficulties in working relationships 2.7. Explain organisational procedures for dealing with conflict in the workplace 2.8. Describe the skills that could be used to resolve conflicts and aggressive behaviour in the workplace		

<p>3 Be able to achieve effective communications with colleagues</p>	<p>3.1. Obtain information required from colleagues using organisational procedures</p> <p>3.2. Present colleagues with relevant information that will meet their needs</p> <p>3.3. Communicate effectively with colleagues giving information in a format that is appropriate</p> <p>3.4. Take action to confirm that the information provided is given by an authorised person</p> <p>3.5. Gain the necessary help where there is difficulty in communicating effectively with colleagues</p>		
<p>4 Know how to achieve effective communications with your colleagues</p>	<p>4.1. Describe the importance of providing accurate and relevant information to be communicated within the workplace</p> <p>4.2. Describe the methods of receiving and giving information between colleagues</p> <p>4.3. Define limits of own authority relating to providing information</p> <p>4.4. Describe the different formats that can be used to communicate information and their uses</p> <p>4.5. Explain the importance of providing colleagues with opportunities to communicate freely and openly</p> <p>4.6. Describe ways to provide colleagues with opportunities to communicate freely and openly</p> <p>4.7. Describe organisational procedures for dealing with and reporting difficulties in communicating freely and openly</p> <p>4.8. Outline how to identify and deal with weaknesses with own communication skills</p>		
<p>5 Be able to promote equality and diversity in the workplace</p>	<p>5.1. Take action to ensure that all behaviour, words and actions promote equality and diversity in the workplace</p> <p>5.2. Identify personal responsibilities and liabilities under equality legislation and relevant codes of practice</p> <p>5.3. Take action to identify prejudice, discrimination and bullying in the workplace</p>		
<p>6 Know how to promote equality and diversity in the workplace</p>	<p>6.1. Explain why equality and diversity in the workplace is important</p> <p>6.2. Explain what can cause prejudice and discrimination in the workplace</p> <p>6.3. Explain organisational policy on equality and diversity</p> <p>6.4. Explain relevant legislation and codes of conduct aimed at achieving equality and diversity</p> <p>6.5. Describe own responsibility regarding equality and diversity in the workplace</p>		

**EVIDENCE REQUIREMENTS**

BACEM3	
1. Produce evidence of dealing with requests from colleagues on at least two occasions.	Evidence Ref:
2. Be observed by an approved assessor on at least one occasion.	Observation Ref:
3. Produce a witness testimony from your peers and supervisor that you have worked well with others.	Witness Ref:
Simulation is NOT allowed for this unit	

This unit must be taken alongside the Health and Safety Units 1 - Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and Unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 4	UNIT TITLE: USE HAND TOOLS AND EQUIPMENT IN BUS/COACH ENGINEERING AND MAINTENANCE
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Level: 2	Route: Competence	Credit Value: 4	GLH: 29
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Mapping: This unit is directly related to GoSkills Unit 3

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in identifying, selecting and using a range of hand tools and equipment commonly used in bus/coach engineering and maintenance workshops

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1. Be able to identify and use a range of hand tools and equipment	1.1. Identify the relevant tools and equipment needed to undertake duties 1.2. Assess tools and equipment for safe operation in accordance with manufacturing specifications 1.3. Carry out the task required selecting and safely using the correct tool or item of equipment 1.4. Accurately record and interpret data from a range of measuring tools 1.5. Demonstrate how to clean and store tools and equipment for future use or operation in accordance with company and manufacturer guidelines 1.6. Use hand tools and equipment within limits of own responsibility 1.7. Maintain tools and equipment within limits of own responsibility 1.8. Take action to clean the work area and safely dispose of waste materials in accordance with safe working practices and organisational procedures 1.9. Clearly and accurately complete work records relevant to using hand tools and equipment as required		

<p>2. Know how to identify and use a range of hand tools and equipment</p>	<p>2.1. Describe how to select and use the correct hand tools and equipment for relevant jobs in a bus/coach engineering and maintenance workshop</p> <p>2.2. Describe a range of hand tools and equipment used in a bus/coach engineering and maintenance workshop</p> <p>2.3. Explain how to use a range of measuring tools and equipment to determine</p> <ul style="list-style-type: none"> a. diameter b. depth c. ovality d. taper e. run-out f. angles g. deviation h. tolerance i. volts j. amps k. ohms l. watts m. airflow n. volume <p>2.4. Explain how to check tools and equipment to ensure they operate to specification</p> <p>2.5. Describe how to clean and safely store basic hand tools and equipment for relevant bus/coach engineering and maintenance workshop in accordance with company and manufacturer guidelines</p> <p>2.6. Explain the importance of disposing of waste materials safely and the consequences of not doing so to others and the environment when working with hand tools and equipment</p> <p>2.7. Describe how to read, calculate and interpret data from hand tools and equipment used in a bus/coach maintenance workshop</p> <p>2.8. Explain the importance of reporting defects and discrepancies to tools and equipment</p> <p>2.9. Know the extent of own responsibility and identify who to report to if there are problems that cannot be resolved</p>		
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EVIDENCE REQUIREMENTS

BACEM4				
1. Produce evidence of undertaking basic routine checks of hand tools measuring devices and workshop equipment on at least 4 occasions covering all of those listed below:	Evidence Ref:			
electrical				
mechanical				
pneumatic				
hydraulic				
2. Be observed carrying out the above by an approved assessor on at least one occasion	Observation Ref:			
3. Produce evidence of using, maintaining, cleaning and storing tools and equipment on at least 4 occasions	Evidence Ref:			
4. Be observed carrying out the above by an approved assessor on at least one occasion	Observation Ref:			
Simulation IS allowed for this unit				



Learners must be able to carry out a range of visual safety checks under supervision to ensure that the tools and equipment are fit for the purpose intended. Learners should use a range of tools and equipment which can include:

- General workshop tools
- Jacks
- Stands
- Cranes
- Lifts
- Hoists
- Presses
- Pullers
- Punches
- Drifts
- Installers
- Platforms
- Grinders
- Saws

Assessment criteria 2.2:

The range should include tools and equipment used for the following:

- Measuring
- Removal and replacement
- Fixing and securing
- Cutting
- Forming
- Fabrication
- Shaping
- Joining
- Assembly/disassembly
- Welding
- Sealing
- Bonding
- Cleaning
- Preparing
- Finishing
- Lifting and supporting

Assessment criteria 2.4:

The range of specifications to be covered should include:

- Calibration
- Accuracy
- Tension
- Torque
- Grip
- Balance
- Adjustment
- Cutting – sharpness

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 8	UNIT TITLE: CARRY OUT SCHEDULED MECHANICAL MAINTENANCE ON BUSES/COACHES
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Level: 3	Route: Competence	Credit Value: 7	GLH: 47
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 19

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in carrying out scheduled bus/coach mechanical maintenance activities in accordance with approved procedures. Learners will be required to interpret the requirements of the maintenance schedule, carry out maintenance to the standards required and record the results of the maintenance activities to comply with organisational and regulatory procedures.

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1 Be able to carry out scheduled mechanical maintenance on buses and coaches	1.1. Identify the maintenance schedules which are required to carry out the required work 1.2. Within the limits of own personal authority undertake the maintenance activities required in the sequence specified and within the agreed timescales 1.3. Take action to report to the relevant people any instances where the maintenance activities cannot be met or where defects have been identified outside the planned schedule 1.4. Safely dispose of waste materials in accordance with safe working practices and organisational procedures		
2 Know how to carry out scheduled mechanical maintenance on buses and coaches	2.1. Explain the different types of critical tolerances, standards and specifications contained within relevant sources of information to include: <ul style="list-style-type: none"> a. service bulletins b. technical data sheets c. vehicle records and history d. charts and tables e. VIN and plate details f. manufacturers' workshop manuals g. manufacturers' bulletins 2.2. Describe how the relevant suppliers' and manufacturers' information can be accessed and how the correct specifications are chosen 2.3. Explain how to carry out scheduled mechanical maintenance using an efficient safe route within the agreed timescales 2.4 Explain how mechanical /electrical maintenance is carried out on systems and components to include <ul style="list-style-type: none"> a. cab area b. engine compartment c. vehicle interior d. vehicle exterior e. under floor 		

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
2. Know how to carry out scheduled mechanical maintenance on buses and coaches (CONT)	2.5. Explain how checks are carried out to maintained mechanical components to ensure compliance with specification in the following areas: <ol style="list-style-type: none"> a. correct operation and performance b. critical tolerances c. capacity d. efficiencies e. component replacement f. visual g. quality/volume h. pressures i. emissions 2.6. Describe how to calibrate and check specified service tools and why this is important 2.7. Explain what checks need to be carried out and how to make service adjustments following these checks 2.8. Describe how routine service components and materials are replenished and replaced 2.9. Describe how inspections of mechanical systems and components are carried out checking for safety, operation, condition, appearance, security, wear, leaks, adjustments and lubrication 2.10. Explain how to operate workshop equipment which is used for scheduled mechanical maintenance 2.11. Explain why it is important to leave workshop equipment in a clean and workable condition after use and what the control procedures are for reporting defects 2.12. Explain the maintenance authorisation procedures 2.13. Explain why it is important to report the progress and completion of the maintenance undertaken and why information on parts used, follow up work and potential problems should be reported 2.14. Describe the relevant statutory and contractual obligations used to record the completed service and maintenance records 2.15. Explain the extent of own responsibility and to whom problems that cannot be solved should be reported to		



EVIDENCE REQUIREMENTS

Learners must understand the factors governing the planning and application of scheduled mechanical maintenance activities and know the statutory and company standards in adequate depth in order to take responsibility to carry out the tasks to the required specification. Applying safe working practices will be a key issue throughout.

BACEM08	
1. Produce evidence of carrying out scheduled mechanical maintenance on 4 different systems from the 5 listed below:	Evidence Ref:
engine compartment	
cab area	
vehicle interior	
vehicle exterior	
under floor	
2. Be observed by an approved assessor on at least one occasion	Observation Ref:
Simulation is NOT allowed for this unit	

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 9	UNIT TITLE: CARRY OUT SCHEDULED ELECTRICAL MAINTENANCE ON BUSES/COACHES
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Level: 3	Route: Competence	Credit Value: 8	GLH: 58
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 20

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in carrying out scheduled bus/coach electrical maintenance activities in accordance with approved procedures. Learners will be required to interpret the requirements of the maintenance schedule, carry out maintenance to the standards required and record the results of the maintenance activities to comply with organisational and regulatory procedures.

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1. Be able to carry out scheduled electrical maintenance on buses and coaches	1.1. Identify the maintenance schedules which are required to carry out the required work 1.2. Within the limits of own personal authority undertake the maintenance activities required in the sequence specified and within the agreed timescales 1.3. Take action to report to the relevant people any instances where the maintenance activities cannot be met or where defects have been identified outside the planned schedule 1.4. Safely dispose of waste materials in accordance with safe working practices and organisational procedures		
	2.1. Explain the different types of critical tolerances, standards and specifications contained within relevant sources of information including: <ul style="list-style-type: none"> a. service bulletins b. technical data sheets c. vehicle records and history d. charts and tables e. VIN and plate details f. manufacturers' workshop manuals g. manufacturers' bulletins 2.2. Describe how the relevant suppliers' and manufacturers' information can be accessed and how the correct specifications are chosen 2.3. Explain how to carry out scheduled electrical maintenance using an efficient safe route within the agreed timescales 2.4. Explain how electrical maintenance is carried out on systems and components including: <ul style="list-style-type: none"> a. battery charging and starting systems b. lighting systems c. abs d. instrumentation and warning systems e. body electrical f. electronic controls g. electrical and electronic transmission 		

<p>2. Know how to carry out scheduled electrical maintenance on buses and coaches (CONT)</p>	<p>2.5. Explain how checks are carried out to maintained electrical components to ensure compliance with specification in the following areas:</p> <ul style="list-style-type: none"> a. correct operation and performance b. critical tolerances c. capacity d. efficiencies e. component replacement f. visual g. quality/volume h. pressures i. emissions j. loadings k. ampage l. current m. fusing n. wiring specifications <p>2.6. Describe how to calibrate and check specified service tools and why this is important</p> <p>2.7. Explain what checks need to be carried out and how to make service adjustments following these checks</p> <p>2.8. Describe how routine service components and materials are replenished and replaced</p> <p>2.9. Describe how inspections of electrical systems and components are carried out checking for damage, wear and corrosion</p> <p>2.10. Explain how to operate workshop equipment which is used for scheduled electrical maintenance</p> <p>2.11. Explain why it is important to leave workshop equipment in a clean and workable condition after use and what the control procedures are for reporting defects</p> <p>2.12. Explain the maintenance authorisation procedures</p> <p>2.13. Explain why it is important to report the progress and completion of the maintenance undertaken and why information on parts used, follow up work and potential problems should be reported</p> <p>2.14. Describe the relevant statutory and contractual obligations used to record the completed service and maintenance records</p> <p>2.15. Explain the extent of own responsibility and to whom problems that cannot be solved should be reported to</p>		
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EVIDENCE REQUIREMENTS

BACEM09	
1. Produce evidence of carrying out scheduled electrical maintenance on: at least 1 different systems from the 2 listed below:	Evidence Ref:
battery charging	
starting systems	
at least 2 different systems from the 5 listed below:	Evidence Ref:
lighting systems	
auxiliary systems	
instrumentation and warning systems	
on-board diagnostic system	
electrical and electronic transmission	
2. Be observed by an approved assessor on at least two occasions- once for Battery charging or starting and once for one of the other 5 systems	Observation Ref:
Simulation is NOT allowed for this unit	

Learners must understand the factors governing the planning and application of scheduled electrical maintenance activities and know the statutory and company standards in adequate depth in order to take responsibility to carry out the tasks to the required specification. Applying safe working practices will be a key issue throughout. Simulation is not permitted.

Learners will be required to check maintained electrical systems to ensure compliance with specification in the following areas as appropriate:

- Correct operation and performance
- Critical tolerances
- Capacity
- Efficiencies
- Component replacement
- Visual
- Quality/volume
- Pressures
- Emissions

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 18	UNIT TITLE: RECONDITION MECHANICAL COMPONENTS IN BUSES/COACHES
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Level: 3	Route: Competence	Credit Value: 8	GLH: 60
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 29

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in reconditioning mechanical components on buses/coaches in accordance with approved procedures. Learners will be required to dismantle, inspect, test, refurbish and assemble a range of mechanical components to organisational and manufacturers' standards.

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1 Be able to recondition mechanical components	1.1. Undertake an inspection of the components and ascertain the level of reconditioning required including: <ul style="list-style-type: none"> a. performance b. function c. emissions d. wear patterns e. scuffing f. vibration g. looseness h. noise i. odours 1.2. Identify the relevant specifications for the component to be reconditioned 1.3. Prepare the component and associated components for reconditioning 1.4. Within the agreed timescale and using the correct methods and procedures carry out the reconditioning using approved materials and components; this should include using a range of reconditioning tools and equipment and a range of measuring tools and equipment 1.5. Assess the reconditioned component ensuring that it meets the specified operating conditions 1.6. Accurately complete the relevant records of all reconditioning work carried out		

<p>2 Know how to recondition mechanical components</p>	<p>2.1. Explain the different types of constraints which could influence reconditioning</p> <p>2.2. Describe the layout and operation of mechanical systems and their associated components</p> <p>2.3. Describe the different methods of reconditioning in the main mechanical components including:</p> <ul style="list-style-type: none"> a. assessment b. reconditioning requirement c. refurbishment d. dismantling e. overhaul f. reassembly <p>2.4. Describe the methods, techniques and procedures used in reconditioning mechanical components, to include the checks required to a completed reconditioned component to ensure it meets organisational and regulatory standards</p> <p>2.5. Explain how to operate workshop equipment and tools and why it is important to leave workshop equipment in a clean and workable condition after use and what the control procedures are for reporting defects</p> <p>2.6. Explain how different types of reconditioning activities are reported and presented to ensure clarity and accuracy of detail</p> <p>2.7. Explain the importance of reporting the progress and completion of a repair which should include the provision of information on the parts used, follow up work and potential problems</p> <p>2.8. Explain the extent of own responsibility and to whom problems that cannot be solved should be reported to</p>		
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EVIDENCE REQUIREMENTS

BACEM18			
1. Produce evidence of overhauling 3 units which includes either an:	Evidence Ref:		
engine			
gearbox			
final drive			
chassis system unit			
2. Be observed by an approved assessor on at least one occasion	Observation Ref:		
Simulation is NOT allowed for this unit			

Learners must comply with organisational policy and procedures and statutory requirements for the reconditioning activities undertaken and report any problems to the relevant authority. The learner will work to a specification agreed with their supervisor. If, in the course of the work activity this specification requires changing or modifying it is expected that the learner will use their knowledge, skills and experience to initiate an alternative route without compromising the quality of the reconditioning procedure.

The range of reconditioning tools and equipment to be used could include:

- General workshop equipment
- Specialised manufacturers' equipment
- Removers and installers
- Joining equipment
- Hand tools
- General workshop equipment
- Specialised manufacturers equipment
- Removers and installers
- Joining equipment and lathe

The range of measuring tools and equipment could include:

- Micrometers
- Voltmeter
- Ammeter
- Ohmmeter
- Multi-meter
- Continuity tester
- Dial test indicators
- Depth gauges
- Callipers
- Torque gauges and growler
- Pressure gauge
- Thickness gauges

Components and associated components can include:

- Engine and cooling systems
- Fuel systems
- Transmission systems
- Braking systems
- Steering and suspension systems
- Pre-engaged starter motor
- Sliding armature starter motor



ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 19	UNIT TITLE: RECONDITION ELECTRICAL COMPONENTS IN BUSES/COACHES
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Level: 3	Route: Competence	Credit Value: 7	GLH: 58
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 30

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in reconditioning electrical components on buses/coaches in accordance with organisational procedures. Learners will be required to dismantle, inspect, test, refurbish and assemble a range of electrical components to organisational and manufacturers' standards.

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1. Be able to recondition electric components	1.1. Undertake an inspection of the components and ascertain the level of reconditioning required including: <ul style="list-style-type: none"> a. performance b. insulation tests c. resistance tests d. dimensional sizes e. wear patterns f. vibration g. looseness h. noise i. odours 1.2. Identify the relevant specifications for the component to be reconditioned 1.3. Prepare the component and associated components for reconditioning 1.4. Within the agreed timescale and using the correct methods and procedures carry out the reconditioning using approved materials and components; this should include using a range of reconditioning tools and equipment and a range of measuring tools and equipment 1.5. Assess the reconditioned component ensuring that it meets the specified operating conditions 1.6. Accurately complete the relevant records of all reconditioning work carried out		

<p>2. Know how to recondition electrical components</p>	<p>2.1. Explain the different types of constraints which could influence reconditioning</p> <p>2.2. Describe the layout and operation of electrical systems and their associated components</p> <p>2.3. Describe the different methods of reconditioning in the main electrical components including:</p> <ul style="list-style-type: none"> a. assessment b. reconditioning requirement c. refurbishment d. dismantling e. overhaul f. reassembly <p>2.4. Describe the methods, techniques and procedures used in reconditioning electrical components, to include the checks required to a completed reconditioned component to ensure it meets organisational and regulatory standards</p> <p>2.5. Explain how to operate workshop equipment and tools and why it is important to leave workshop equipment in a clean and workable condition after use and what the control procedures are for reporting defects</p> <p>2.6. Explain how different types of reconditioning activities are reported and presented to ensure clarity and accuracy of detail</p> <p>2.7. Explain the importance of reporting the progress and completion of a repair which should include the provision of information on the parts used, follow up work and potential problems</p> <p>2.8. Explain the extent of own responsibility and to whom problems that cannot be solved should be reported to</p>		
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EVIDENCE REQUIREMENTS

BACEM19						
1. Produce evidence of overhauling 5 different units covering at least 2 different components from the list below:	Evidence Ref:					
engine						
gearbox						
final drive						
chassis system unit						
2. Be observed by an approved assessor on at least one occasion	Observation Ref:					
Simulation is NOT allowed for this unit						

Learners must comply with organisational policy and procedures and statutory requirements for the reconditioning activities undertaken and report any problems to the relevant authority. The learner will work to a specification agreed with their supervisor. If, in the course of the work activity this specification requires changing or modifying it is expected that the learner will use their knowledge, skills and experience to initiate an alternative route without compromising the quality of the reconditioning procedure.

The range of reconditioning tools and equipment to be used could include:

- General workshop equipment
- Specialised manufacturers' equipment
- Removers and installers
- Joining equipment
- Hand tools
- Cutters
- Lapping tools
- Honing tools
- Lathe

The range of measuring tools and equipment could include:

- Micrometers
- Voltmeter
- Ammeter
- Ohmmeter
- Multi-meter
- Continuity tester
- Dial test indicators
- Depth gauges
- Callipers
- Torque gauges and growler
- Pressure gauge
- Thickness gauges

Components and associated components can include:

- Engine and cooling systems
- Charging systems
- Air conditioning
- Electric retarders
- Electric motors
- Sensors and actuators
- Passenger comfort and convenience systems
- Ticketing and interfaces

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 20	UNIT TITLE: COMPLETE THERMAL JOINING OF BUS/COACH COMPONENTS
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Level: 3	Route: Competence	Credit Value: 5	GLH: 29
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 17

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in completing thermal joining activities in accordance with organisational procedures. Applying safe working practices will be a key issue throughout. At all times Learners must comply with organisational policy and procedures and legal requirements for the activities undertaken

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1 Be able to complete thermal joining	1.1. Identify and interpret relevant joining procedures and job instructions including the correct selection and use of personal protective equipment (PPE) 1.2. Assess the joint preparation and check that it complies with the specifications 1.3. Inspect the joining and related equipment and consumables and check that they are as specified and fit for purpose 1.4. Apply the thermal joining techniques and produce the joints as specified to the required quality and dimensional accuracy 1.5. Implement the shut-down of the equipment to a safe condition on completion of the joining activities 1.6. Deal promptly with excess waste materials and temporary attachments in line with organisational procedures 1.7. Complete all work records accurately and as required		
2 Know how to complete thermal joining	2.1. Describe what specific precautions should be taken when working with thermal joining equipment, materials and consumables to include: <ul style="list-style-type: none"> a. the safe use of gas cylinders b. the safe way of working with flammable substances c. the correct selection and use of personal protective equipment (ppe) d. the safe disposal of hazardous materials 2.2. Explain the different techniques used to make typical welding joints which are required in bus/coach maintenance and repair activities. 2.3. Describe what the different welding processes are and the equipment used within own trade area in bus/coach maintenance and repair 2.4. Explain the methods that are used to set up and hold materials and components during welding to include the preparation required, the sequences used to minimise or control distortion and any post welding treatments required		

	<p>2.5. Describe what the welding characteristics are of the different materials used within own trade area in motor vehicle maintenance and repair</p> <p>2.6. Explain how to set up, adjust and use the welding equipment for the type and gauge/thickness of materials used in own trade area</p> <p>2.7. Explain how to carry out basic maintenance and adjustments to the welding equipment used in own trade area</p> <p>2.8 Explain how to identify and rectify typical visual faults and defects associated with welding processes to include:</p> <ul style="list-style-type: none"> a. burn through b. incomplete fusion undercutting c. excessive spatter d. cracking e. distortion f. oxidation g. inconsistent weld pattern h. uneven leg length i. surface expulsion j. porosity <p>2.9. Describe the hazards that can occur during joining occupations</p> <p>2.10. Describe the destructive and non-destructive personal approval tests</p> <p>2.11. Explain what cannot be welded unless by an approved welder</p> <p>2.12. Explain the reasons for setting up equipment and materials for sample runs prior to carrying out welds on the bus/coach or its components</p> <p>2.13. Explain the procedures for shutting down the joining equipment in a safe manner</p>		
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EVIDENCE REQUIREMENTS

BACEM20	
Assessment should cover as a minimum:	
1. 2 welding methods from:	Evidence Ref
MIG	
TIG	
MMA	
2. 3 different joints from:	Evidence Ref
butt	
lap	
fillet	
plug	
3. 2 different welding positions from:	Evidence Ref
down hand	
horizontal vertical	
vertical up	
vertical down	
overhead.	
4. Be observed by an approved assessor on at least one occasion	Observation Ref:
Simulation IS allowed for this unit	

Learners should be able to demonstrate how to be able to visually inspect the work to ensure a minimum of 75% of the weld length:

- Is linear, uniform and has ripples of a consistent form and width
- Is free from blowholes, excessive arcing marks, spatter, porosity, oxidation and excessive distortion
- Has a good toe blend and butt welds have good root penetration

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 30	UNIT TITLE: DRIVE THE BUS/COACH FOR TESTING AND VEHICLE RECOVERY
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Level: 2	Route: Competence	Credit Value: 6	GLH: 36
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 16

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in driving all bus and coach vehicle types maintained in the workshop particularly for testing and vehicle recovery purposes but not for carrying fare-paying passengers.

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1 Be able to drive the bus/coach for testing and vehicle recovery in a safe manner	1.1. Adhere to the statutory and medical requirements to drive a bus/coach 1.2. Assess and confirm the bus/coach is in a safe condition for the journey and that all its documentation meets current legislation 1.3. Implement the pre-drive checks to the bus/coach in line with approved procedures 1.4. Identify any potential and actual bus/coach defects and promptly report these to the relevant person 1.5. Drive the bus/coach in a way that is without risk to self or others in accordance with the requirements of the Highway Code taking into account the following conditions: road traffic, environmental conditions and other road users 1.6. Park or hand over the bus/coach in accordance with agreed procedures ensuring the driver's area is left clean and free from hazards 1.7. Drive the bus/coach within own limits of responsibility		

<p>2 Know how to drive the bus/coach for testing and vehicle recovery in a safe manner</p>	<p>2.1. Describe the different types of buses and coaches maintained in the workshop</p> <p>2.2. Explain the relevant legislation and operating procedures for driving all types of buses or coaches maintained in the workshop</p> <p>2.3. Explain the medical fitness and licensing requirements to drive a bus/coach</p> <p>2.4. Explain what documentation is required for driving on the bus/coach</p> <p>2.5. Explain the importance for pre-use checks for the bus/coach and how to undertake these</p> <p>2.6. Explain the restrictions on reversing</p> <p>2.7. Describe the parking and hand-over procedures</p> <p>2.8. Explain the procedures for reporting accidents, defects or problems and why it is important to do this</p> <p>2.9. Explain the extent of own responsibility and to whom problems that cannot be solved should be reported to</p>		
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EVIDENCE REQUIREMENTS

The range of driving situations could include:

- Motorways
- Single and dual carriageways
- Rural and urban locations
- Depots, in particular driving on and off pits
- Forward drive and reversing
- Night time driving
- Day time driving
- Rolling road

Learners will also need to show that they can drive the bus/coach in a variety of weather conditions such as :

- Rain
- Snow
- Mist/fog
- Dry
- High winds
- Ice
- Bright light
- Low sun

<p>ASSESSOR SIGNATURE:</p>	<p>PIN NO:</p>	<p>DATE:</p>
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Learner Name:

UNIT REF: BACEM 31	UNIT TITLE: PROVIDE ROADSIDE ASSISTANCE FOR BROKEN DOWN BUSES/COACHES
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Level: 2	Route: Competence	Credit Value: 7	GLH: 46
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 15

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in assisting drivers in a roadside breakdown. The roadside repairs could include temporary repairs, part and component replacements, investigations and rectifications and accident damage.

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1 Be able to assist drivers whose bus/coach has broken down at the roadside	1.1 Effectively communicate with the customer /colleague to establish the circumstances in relation to the breakdown including: <ul style="list-style-type: none"> a. oral questioning b. written report c. telephone d. radio control 1.2 Take control and operate a roadside breakdown vehicle 1.3 Assess the repair action and make preparatory arrangements 1.4 Select the correct tooling and equipment for roadside working 1.5 Carry out a range of roadside repairs to systems and components including: <ul style="list-style-type: none"> a. electrical b. fuel c. transmission d. engine and cooling e. wheels and tyres f. brakes 1.6 Take the appropriate action to work with others to maintain safety at the roadside to include the police and emergency services 1.7 Take action to warn and protect all persons who may be affected by roadside work activities 1.8 Undertake the roadside repair ensuring it is carried out in a planned and controlled environment in accordance with HASWA guidelines 1.9 Effectively communicate the progress of work to the relevant people 1.10. Accurately record and pass details of the work undertaken to the relevant authority 1.11. Take the appropriate action to leave the site of the roadside repair in a safe and controlled manner. 1.12. Ensure that the site is cleared, debris is removed, tools, equipment and cones are secured and stored all vehicles exit the site safely		



<p>2 Know how to provide assist drivers whose bus/coach has broken down at the roadside</p>	<p>2.1. Describe the equipment and facilities required for safe roadside working</p> <p>2.2. Describe the equipment, tools and consumables required for carrying out safe and successful temporary and permanent repairs at the roadside</p> <p>2.3. Explain the personal qualities required for roadside working</p> <p>2.4. Explain the different communication techniques used before, during and after the roadside activity</p> <p>2.5. Explain the importance of working with the traffic police and their agents to maintain road safety and to minimise traffic disruption</p> <p>2.6. Explain how to assess and clarify the details of the roadside situation to include:</p> <ul style="list-style-type: none">a. roadside positionb. vehicle symptoms and statusc. hazard and hazardous substances <p>2.7. Describe how to secure the roadside situation in a safe and controlled manner</p> <p>2.8. Describe the essential skills required to operate a roadside breakdown vehicle and rectify faults in a time and efficient manner</p> <p>2.9. Explain the documentation and reports required to record the assistance given</p> <p>2.10. Explain the relevant organisational procedures and policies and legal requirements</p> <p>2.11. Know the extent of own responsibility and identify who to report to if there are problems that cannot be resolved</p>		
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EVIDENCE REQUIREMENTS

BACEM 31				
1. Produce evidence of providing roadside assistance for broken down buses/coaches on 4 occasions, 1 of which must include a repair at the roadside.	Evidence Ref:			
2. Be observed by an approved assessor on at least one occasion	Observation Ref:			
Simulation is NOT allowed for this unit				

The situations that have resulted in the need for assistance could include the following:

- Breakdowns
- Accidents
- Damage
- Component failures
- Injury

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 32	UNIT TITLE: INSTALL ANCILLARY SYSTEMS AND COMPONENTS IN BUSES/COACHES
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Level: 3	Route: Competence	Credit Value: 7	GLH: 49
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 31

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in installing ancillary systems and components on buses/coaches in accordance with organisational procedures. Learners will be required to understand the electrical and electronic knowledge relating to the methods employed to plan and prepare the installation to the required specification.

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1 Be able to install ancillary systems and components	1.1. Identify the relevant ampage and installation instruction for the unit/ component to be installed 1.2. Within the agreed timescale and using the correct methods and procedures carry out the installation 1.3. Assess the installed component ensuring that it meets the specified operating conditions 1.4. Take action to ensure that tools and equipment used for the installation are in good working order, used correctly and properly stored after use according to manufacturer guidelines and procedures including: a. hand tools b. general workshop equipment c. special service tools d. specialised manufacturers' equipment e. tooling and joining equipment 1.5. Accurately complete the relevant records of all installation work carried out		



<p>2 Know how to install ancillary systems and components</p>	<p>2.1. Explain the different types of constraints which could influence the installation plan</p> <p>2.2. Explain the installation procedures for a range of ancillary units and components including:</p> <ul style="list-style-type: none"> a. safety and security b. onboard communications c. global positioning d. passenger comfort and convenience e. ticketing systems f. telematics <p>2.3. Describe the different methods, techniques and procedures for installing ancillary units to include how to check and commission a completed installation to ensure that it meets company and regulatory standards</p> <p>2.4. Explain how to operate workshop equipment and tools used to install ancillary units and why it is important to leave workshop equipment in a clean and workable condition after use and what the control procedures are for reporting defects</p> <p>2.5. Explain how different types of installation activities are reported and presented to ensure clarity and accuracy of detail</p> <p>2.6. Explain the extent of own responsibility and to whom problems that cannot be solved should be reported to</p>		
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EVIDENCE REQUIREMENTS

BACEM 32		
1. Produce evidence of installing and configuring 3 of the following systems:	Evidence Ref:	
safety and security		
in board communication equipment		
global positioning		
passenger comfort and convenience		
ticketing systems		
telematics		
2. Be observed by an approved assessor on at least one occasion	Observation Ref:	
Simulation IS allowed for this unit		

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 33	UNIT TITLE: DIAGNOSE MECHANICAL/ELECTRICAL FAULTS IN ANCILLARY SYSTEMS AND COMPONENTS IN BUSES/COACHES
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Level: 3	Route: Competence	Credit Value: 13	GLH: 76
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 32

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in diagnosing mechanical/Electrical faults in ancillary systems and components on buses/coaches in accordance with approved procedures. Learners will be required to interpret instructions, select the correct diagnostic procedure and tools, diagnose the fault and report findings and recommended repair procedures.

LEARNING OUTCOMES		ASSESSMENT CRITERIA		Ref No	Date
The Learner will:		The Learner can:			
1	Be able to diagnose faults in ancillary systems and components	1.1.	Identify the relevant information on the systems and problems associated with the products or assets		
		1.2.	Take action to investigate and establish the most likely causes of the faults		
		1.3.	Within the agreed timescales complete the fault diagnosis and inform the appropriate people when this cannot be achieved		
		1.4.	Assess what implications there could be of the fault for other work and for safety considerations		
		1.5.	Using the evidence gained draw valid conclusions about the nature and probable cause of the fault		
		1.6.	Accurately record details on the extent and location of the faults in an appropriate format		

<p>2 Know how to diagnose faults in ancillary systems and components</p>	<p>2.1. Describe the different types of diagnostic aids available to diagnose a range of faults based on accurate interpretation of work instructions including:</p> <ul style="list-style-type: none"> a. technical data b. test procedures c. repair procedures d. troubleshooting charts and tables e. installation procedures <p>2.2. Explain the possible faults in ancillary systems and their relationship to the most logical method of fault diagnosis</p> <p>2.3. Explain the preparation procedures required to ensure accuracy of the diagnosis including:</p> <ul style="list-style-type: none"> a. checking the accuracy of test instruments b. calibration c. operating temperature d. component or system access <p>2.4. Describe the diagnostic methods and techniques that can be employed to diagnose faults to include the use of systematic testing using visual, aural, measurement based readings and simulations</p> <p>2.5. Explain how to analyse and determine diagnostic results to include understanding the implications of the fault for other work and safety implications</p> <p>2.6. Explain how to operate and care for workshop test equipment used to diagnose faults and why it is important to leave workshop equipment in a clean and workable condition after use and what the control procedures are for reporting defects</p> <p>2.7. Explain what risk assessment procedures have to be adopted when undertaking a diagnostic task</p> <p>2.8. Explain why it is important to complete fault diagnosis within the agreed time and to report accurately the diagnostic conclusions including:</p> <ul style="list-style-type: none"> a. safety implications b. potential follow up work c. purchase requests d. time and cost implications e. good customer service <p>2.9. Explain the way different forms of diagnostic information is reported and presented to ensure clarity of detail and understanding including the following methods:</p> <ul style="list-style-type: none"> a. comparative results b. written reports c. oral reports d. visual evidence e. printouts f. faults cleared g. tactile <p>2.10. Explain the extent of own responsibility and to whom problems that cannot be solved should be reported to</p>		
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**EVIDENCE REQUIREMENTS**

BACEM 33	
1. Produce evidence of diagnosing mechanical/electrical faults in 3 of the following systems:	Evidence Ref:
safety and security	
on board communication equipment	
global positioning	
passenger comfort and convenience	
ticketing systems	
telematics	
2. Be observed by an approved assessor on at least one occasion	Observation Ref:
Simulation IS allowed for this unit	

Learners must comply with organisational policy and procedures and statutory requirements for the complex diagnostic activities undertaken and report any problems to the relevant authority. The learner will work to a specification agreed with their supervisor. If, in the course of the diagnosis this specification requires changing or modifying it is expected that the learner will use their knowledge, skills and experience to initiate an alternative route without compromising the quality of the diagnosis

A diagnosis can be defined as one which may involve interaction between two or more vehicle systems and components. The range of systems could include:

- Security cameras, cctv
- Digital recording systems
- Passenger facilities (safety, comfort and convenience)
- Audio/visual equipment
- Two way radio
- Air conditioning units
- Intelligent bus systems
- Ticketing machines and cash vaults
- Route information systems as appropriate
- Global Position System (GPS)

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 34	UNIT TITLE: REPAIR MECHANICAL/ELECTRICAL FAULTS IN ANCILLARY SYSTEMS AND COMPONENTS IN BUSES/COACHES
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Level: 3	Route: Competence	Credit Value: 11	GLH: 80
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 33

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in repairing mechanical/Electrical faults in ancillary systems and components on buses/coaches in accordance with organisational procedures. Learners will be required to carry out a range of previously identified repair activities that on completion meet organisational and manufacturers regulatory standards.

LEARNING OUTCOMES		ASSESSMENT CRITERIA		Ref No	Date
The Learner will:		The Learner can:			
1	Be able to repair faults in ancillary systems and components	1.1.	Perform duties working safely at all times complying with health and safety and other relevant regulations and guidelines		
		1.2.	Obtain the relevant specifications to follow for the component to be repaired		
		1.3.	Take action to prepare the component ready for repair		
		1.4.	Within the agreed timescale carry out the repairs using the approved materials, components, methods and procedures including: <ul style="list-style-type: none"> a. dismantling b. assessment c. replacement d. refurbishments e. re-assembly f. adjustments g. testing 		
		1.5.	Undertake an assessment of the repaired component to ensure that it meets the specified operating conditions		
		1.6.	Accurately record details on the extent and location of the faults in an appropriate format		

<p>2 Know how to repair faults in ancillary systems and components</p>	<p>2.1. Explain the different types of constraints which could influence the repair method chosen</p> <p>2.2. Explain the layout and operation of ancillary systems and their associated components</p> <p>2.3. Describe the different methods undertaken for repair in the main bus/coach systems</p> <p>2.4. Explain what checks have to be undertaken on a completed repair to ensure it meets organisational and regulatory standards</p> <p>2.5. Explain how to operate and care for workshop test equipment used to diagnose faults and why it is important to leave workshop equipment in a clean and workable condition after use and what the control procedures are for reporting defects</p> <p>2.6. Explain how different types of repair activities are reported and presented to ensure clarity and accuracy of detail</p> <p>2.7. Explain why it is important to report the progress and completion of the repair including:</p> <ul style="list-style-type: none"> a. the provision of information on the parts used b. follow up work c. potential problems <p>2.8. Explain the extent of own responsibility and to whom problems that cannot be solved should be reported</p>		
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**EVIDENCE REQUIREMENTS**

BACEM 34	
1. Produce evidence of repairing mechanical/electrical faults in 3 of the following systems:	Evidence Ref:
safety and security	
on board communication equipment	
global positioning	
passenger comfort and convenience	
ticketing systems	
telematics	
2. Be observed by an approved assessor on at least one occasion	Observation Ref:
Simulation IS allowed for this unit	

Learners must comply with organisational policy and procedures and statutory requirements for the complex diagnostic activities undertaken and report any problems to the relevant authority. The learner will work to a specification agreed with their supervisor. If, in the course of the diagnosis this specification requires changing or modifying it is expected that the learner will use their knowledge, skills and experience to initiate an alternative route without compromising the quality of the diagnosis.

Learners will use a range of tools and equipment, including as appropriate:

- Manufacturers' specialised equipment
- Hand tools
- General workshop equipment
- Removers and replacers
- Joining equipment
- Electrical and electronic testers
- Measuring equipment

A repair can be defined as one which may involve interaction between two or more vehicle systems and components. The range of systems could include:

- Security cameras, cctv
- Digital recording systems
- Passenger facilities (safety, comfort and convenience)
- Audio/visual equipment
- Two way radio
- Intelligent bus systems
- Ticketing machines and cash vaults
- Route information systems as appropriate
- Global Position System (GPS)

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 35	UNIT TITLE: ESTABLISH CUSTOMER TECHNICAL REQUIREMENTS FOR BUSES/COACHES
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Level: 3	Route: Competence	Credit Value: 4	GLH: 14
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 34

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in establishing customer technical requirements for buses/coaches. Learners will be required to elicit information from a variety of customers to gauge or diagnose particular technical problems and queries. Taking the information from customers, the learner will clarify instructions and concerns and establish the technical requirements to progress the work.

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1 Be able to establish customer technical requirements	1.1. Perform duties working safely at all times complying with health and safety and other relevant regulations and guidelines 1.2. Establish the most effective communication method to gain customer confidence and cooperation 1.3. Take action to communicate effectively and clearly with customers who have: a. technical expertise b. little or no technical expertise 1.4. Deal with customers for whom English is not their first language and obtain the required support to do this 1.5. Find out customer requirements as appropriate in the following situations: a. routine maintenance and inspection b. bus/coach off the road c. bus/coach breakdown d. bus/coach system fault 1.6. Offer advice to the customer and recommend the most appropriate repair action 1.7. Take the appropriate action to ensure that the customer is fully informed and is satisfied with the outcome of the service that has been provided 1.8. Accurately report and record the results of the customers technical requirements in the relevant way including: a. road test reports b. diagnostic reports c. repair orders d. vehicle records 1.9. Accurately record the details of the recommended repair action in the appropriate format 1.10. Within own limits of control deal promptly and effectively with problems and report those that cannot be solved		



2 Know how to establish customer technical requirements	2.1. Explain the different personal skills needed to communicate with customers effectively 2.2. Explain the different courses of action available to solve specific technical problems including: a. driver questioning b. vehicle inspection c. diagnostic tools d. electronically stored information e. fault-finding charts f. road and brake testing 2.3. Describe the different methods which can be used to communicate the results of investigations carried out in a clear and informative way 2.4. Explain how to correctly use different communication channels to inform customers, including the use of the phone, e-mail and fax, and what approaches can be used to deal with warranty and insurance claims 2.5. Explain the best way to utilise customer service skills to ensure that the customer's expectations are fully met to include: a. advising on and progressing work b. handovers and follow ups 2.6. Explain the extent of own responsibility and to whom problems that cannot be solved should be reported to		
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EVIDENCE REQUIREMENTS

Learners must comply with organisational policy and procedures and statutory requirements when in contact with internal and external customers. The learner should maintain a high level of technical knowledge including relevant legal requirements and be able to talk with authority on a range of complex vehicle issues. The learner will be expected to work with minimum supervision. The learner will be expected to accurately interpret and clarify customer technical requirements and communicate this information clearly to enable repair and/or maintenance activities to proceed.

The types of customers are those that directly influence the nature of the work, for example drivers and inspectors. The learner will must be able to elicit information from a variety of customers to gauge or diagnose particular problems and queries.

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 36	UNIT TITLE: IMPROVE THE SERVICE PROVIDED TO CUSTOMERS OF BUSES/COACHES
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Level: 2	Route: Competence	Credit Value: 5	GLH: 36
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 35

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in monitoring, appraising and improving the service provided to customers of buses/coaches. Learners will be required to identify from investigations and research where improvements to the service provided can be made and promote those benefits both personally and within the team environment.

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1 Be able to improve the service provided to customers	1.1. Assess comments and customer feedback and actively use this data to ensure reliable quality of service is being provided to customers 1.2. Using a range of investigative and research tools determine the quality of service provided including: a. direct comments b. customer satisfaction surveys c. quality audits d. historical analysis e. personal initiatives 1.3 Analyse results of data to gauge how quality of service provision is affected by vehicle downtime due to: a. planned vehicle maintenance activities b. unplanned vehicle maintenance activities c. standard repair/maintenance time being exceeded d. warranty work e. availability of parts and materials f. non conformity of repairs and maintenance activities g. temporary unplanned external factors 1.4. Using the results of the data collected to gauge how quality of service provision is affected by vehicle downtime, improve service standards by setting targets of achievement 1.5. Take action to use current procedures to establish improvements to customer service 1.6. Using the data collected from customer surveys and feedback, recommend service reliability improvements including: a. procedural improvements b. improving diagnostic skills c. enhancing professional knowledge d. customer interfacing skills e. complaint handling f. parts and materials availability g. quality control measures h. work environment 1.7. Within own area of responsibility initiate improvements in performance		



	<p>1.8. Communicate effectively to others about changes required to improve reliability of services provided to customers ensuring that proposals are practical</p> <p>1.9. Within limits of own responsibility improve service to companies</p> <p>1.10. Monitor customer service responses in order to maintain service reliability improvements including:</p> <ul style="list-style-type: none"> a. customer and company feedback b. customer satisfaction index c. customer retention d. bus/coach standards maintained 		
<p>2. Know how to improve the service provided to customers</p>	<p>2.1. Explain the importance of communications to include:</p> <ul style="list-style-type: none"> a. the benefits of surveys and audits to gauge customer opinion and service reliability b. the practical measures required to carry out surveys and audits c. the transportation of data into charts, table and graphs d. the information available through study of completed charts, tables and graphs e. the importance of internal communications to share technical expertise and experience <p>2.2. Explain how to analyse data to include:</p> <ul style="list-style-type: none"> a. analysing data from charts, tables and graphs b. defect reports c. parts and materials costs d. vehicle downtime costs <p>2.3. Explain how a course of action can be developed from the analysis of data</p> <p>2.4. Explain how to develop ideas from formal and informal discussions with colleagues and team members</p> <p>2.5. Explain how the merits and costs of proposed action is determined to improve service to customers including how to present action plans and reports to show:</p> <ul style="list-style-type: none"> a. the particular benefits of the proposal b. cost savings in terms of efficiency gains e.g. hours saved c. direct and indirect costs d. vehicle reliability and utilisation e. customer satisfaction and retention 		



EVIDENCE REQUIREMENTS

Learners must comply with organisational policy and procedures and statutory requirements when in contact with internal and external customers. Learners must be able to work within the agreed boundaries. If, in the course of the work activity, these require changing or modifying it is expected that the learner would use their knowledge, skills and experience to initiate an alternative route without compromising the quality of service provided. The learner's knowledge and understanding of engineering activities and organisational procedures will enable them to analyse the products and services provided to customers in addition to providing an informed approach to investigating the nature of improvements and remedies. Learners must understand how to cost feasible, realistic and effective solutions to improve services ensuring that any proposed solutions comply with current legislation and company standards and specifications. Applying relevant working practices will be a key issue throughout.

Customers are identified as colleagues, lines of report, drivers and passengers who use passenger transport services.

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 37	UNIT TITLE: CARRY OUT ROADSIDE RECOVERY OF BUSES/COACHES
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Level: 3	Route: Competence	Credit Value: 8	GLH: 31
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 35

Rationale: The purpose of this unit is for learners to demonstrate occupational competency to safely remove and transport a bus/coach from the roadside or vicinity

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1 Be able to carry out roadside recovery of buses/coaches	1.1. Using a range of communication methods establish the customers' circumstances in relation to the bus/coach situation including: <ul style="list-style-type: none"> a. oral questioning b. written reports c. telephone or radio control 1.2. Take action to prepare resources based on a recovery action plan including: <ul style="list-style-type: none"> a. personal protective equipment b. communication equipment c. rigid draw bar d. under lift bar e. spectacle f. winch g. crane 1.3. Undertake an assessment of the immediate recovery situation and make appropriate plans to secure, protect and clear the site to include the following situations: <ul style="list-style-type: none"> a. bus/coach position upright b. bus/coach position angled side c. bus/coach damaged d. spillages e. hazards f. traffic situation 1.4. Take the appropriate action to work with others, particularly the police and emergency services, to maintain safety at the roadside 1.5. Take action to protect and warn all persons who may be affected by work activities 1.6. Take the appropriate action to ensure that the roadside recovery operation is carried out in a planned and controlled way in the following environments: <ul style="list-style-type: none"> a. rural b. urban c. single carriageway d. dual carriageway e. motorway 1.7. Clearly and accurately report progress of work to the relevant persons 1.8. Accurately record and pass details of the work undertaken to the relevant authority		



	<p>1.9. Within limits of own responsibility carry out a roadside recovery</p> <p>1.10. Take action to leave the site of the recovery operation in a safe and controlled manner ensuring that the site is cleared, debris is removed, tools, equipment and cones are secured and stored and the vehicles exit the site safely</p>		
<p>2 Know how to carry out roadside recovery of buses/coaches</p>	<p>2.1. Describe the equipment and facilities required for safe roadside working</p> <p>2.2. Explain how a roadside recovery vehicle is prepared and used to include the following vehicle checks:</p> <ul style="list-style-type: none"> a. complies with legal requirements b. suitability for the incident involved c. suitability for the type, condition and weight of the broken down bus/coach <p>2.3. Describe the personal qualities required for road side working</p> <p>2.4. Explain how to use and maintain effective communication techniques before, during and after the roadside activity including:</p> <ul style="list-style-type: none"> a. questioning techniques b. using telephone c. using two-way radio d. giving and receiving instructions e. offering re-assurance <p>2.5. Explain why it is important to work with the police and the emergency services to maintain road safety and to minimise traffic disruption</p> <p>2.6. Explain the process for clarifying and assessing the details of the roadside situation including:</p> <ul style="list-style-type: none"> a. roadside position b. vehicle symptoms and status c. potential hazards/substances <p>2.7. Explain how to secure the roadside situation in a safe and controlled manner</p> <p>2.8. Explain how to calculate the weight, mass and forces that are required in any lifting or winching procedure</p> <p>2.9. Explain how to constitute safe lifting, supporting and transporting a broken down bus/coach</p> <p>2.10. Describe the essential roadside skills that are required for safe bus/coach recovery</p> <p>2.11. Explain what documentation and reports are required to record the recovery operation</p> <p>2.12. Explain the extent of own responsibility and to whom problems that cannot be solved should be reported to</p>		

**EVIDENCE REQUIREMENTS**

BACEM 37	
1. Produce evidence of removing and transporting buses/coaches using 2 of the following methods:	Evidence Ref:
flat tow	
suspend tow and total lift fixed tow	
front lift	
tow pole/straight bar	
'A' frame' recovery equipment or towing 'Dolly'	
3. Be observed by an approved assessor on at least one occasion	Observation Ref:
Simulation is NOT allowed for this unit	

Learners must comply with organisational policy and procedures. Learners will be required to work to a specification agreed with their supervisor. If, in the course of the roadside recovery this specification requires changing or modifying it is expected that the learner would use knowledge, skills and experience to initiate an alternative plan. Learners will be required to conduct the roadside recovery operations to organisational, approved codes of practice and legal requirements. Learners may have to work with police and emergency services to ensure that other road users are informed and protected from work activities. The work involved at the recovery site is potentially dangerous and the responsibility for health and safety will extend beyond the perimeter of the normal place of work. The learner will need to prepare in advance the necessary recovery vehicle, equipment, tooling and safety items that will be needed to carry out a successful recovery operation and report any deficiencies to the relevant authority.

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 38	UNIT TITLE: PLAN AND ORGANISE WORK OF SELF AND OTHERS
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Level: 3	Route: Competence	Credit Value: 5	GLH: 40
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 37

Rationale: The purpose of this unit is for learners to demonstrate occupational competency to plan and organise work activities of self and others in accordance with organisational procedures.

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1 Be able to plan and organise work of self and others	1.1. Identify and plan work methods and activities which make optimum use of resources and record the details accurately 1.2. Effectively prioritise work activities to achieve objectives cost-effectively and efficiently 1.3. Take action to agree and record individual roles and group responsibilities 1.4. Give appropriate advice and guidance on technical matters as required 1.5. Look to others for advice to help resolve problems 1.6. Take action to show how changes to plans will be accommodated 1.7. Make a record of agreed work plans and effectively communicate the plans to the appropriate people 1.8. Within limits of own authority deal with any unforeseen problems 1.9. Discuss and agree with supervisor, effective and efficient alternatives where planned activities cannot be achieved		



<p>2 Know and understand how to plan and organise work of self and others</p>	<p>2.1. Explain the different planning methods and techniques used including contingency planning and priority setting</p> <p>2.2. Explain the technical feasibility of work methods used and the problems that can occur during planned maintenance activities and how these can be overcome</p> <p>2.3. Explain the organisational information and documentation systems used</p> <p>2.4. Explain the organisational monitoring and evaluation systems used</p> <p>2.5. Explain the different negotiation techniques that can be used when allocating work</p> <p>2.6. Explain the different communication methods and procedures that can be used when planning and organising work</p> <p>2.7. Explain within limits of own responsibility and who problems that cannot be solved should be reported to</p>		
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EVIDENCE REQUIREMENTS

Learners will be required to take responsibility for specific pieces of work and provide technical leadership where appropriate within the plan. Learners will understand planning methods and techniques, and their application, and will know about the organisational structure, systems and procedures in sufficient depth to carry out the activities to the required specification. Applying safe working practices will be a key issue throughout. Learners will work to an overall plan agreed with their supervisor. If, in the course of executing the plan, it requires changing or modifying it is expected that the learner would use their knowledge skills and experience to initiate an alternative plan without compromising the quality of the outcome. The learner must be able to plan the organisation of work in the following areas as appropriate:

- Shift handover of current work
- Modification
- Repair
- Maintenance
- Installation
- Calibration

Learners must be able to plan work activities for a defined task that requires completion through two or more related actions.

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 39	UNIT TITLE: SUPPORT LEARNERS BY COACHING IN THE WORKPLACE
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Level: 3	Route: Competence	Credit Value: 4	GLH: 26
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 38

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in supporting learners by coaching in the workplace. It covers the skills and competences required to give learners information and guidance on their work role. In particular it covers the provision of job-related coaching

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1 Be able to support learners by coaching in the workplace	1.1. Take action to identify learners' needs and the resources and facilities required, including IT based resources, to undertake the coaching role to help them meet these needs 1.2. Identify what sources of information and support there are to help perform the role of coach 1.3. Take action to agree how progress and any problems will be reviewed during the coaching process 1.4. Within limits of own responsibility plan and maintain the coaching process		
2 Know how to support learners by coaching in the workplace	2.1. Describe the role of a coach 2.2. Explain the coaching process, in particular how to: <ul style="list-style-type: none"> a. provide appropriate coaching activities for particular situations including it based programmes b. provide opportunities in the workplace for learners to develop skills and increase confidence c. plan and monitor coaching activity d. support structures available to learners 2.3. Explain the different techniques of coaching, including how to: <ul style="list-style-type: none"> a. set goals and targets b. analyse tasks c. develop a plan d. instruct by sharing knowledge and skills e. communicate to learners in the most effective way, for example face-to-face, small groups f. obtain and give feedback g. analyse learners' strengths and weaknesses and help them to correct defects 2.4. Describe the personal attributes of effective coaches 2.5. Explain the benefits that can be gained from coaching 2.6. Explain the factors that can inhibit learning 2.7. Describe the different problems that can be experienced by all new entrants 2.8. Explain the extent of own responsibility and who problems that cannot be solved should be reported to		



EVIDENCE REQUIREMENTS

Learners should be able to provide coaching activity to a range of individuals to include, as appropriate:

- New starters
- Individuals unfamiliar with a particular technical matter
- Individuals undertaking training to increase workplace skills
- Individuals experiencing difficulty in specific technical aspects of their work

Learners should be able to communicate in the following ways:

- Face-to face verbal communication
- Small group discussion
- Presentation on technical issues to small groups
- Written communication
- IT based coaching programmes

Examples of problems may include, where relevant, those from overseas needing for example language skills, as well as experienced staff requiring further development in workplace skills

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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Learner Name:

UNIT REF: BACEM 40	UNIT TITLE: SUPPORT LEARNERS BY MENTORING IN THE WORKPLACE
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Level: 3	Route: Competence	Credit Value: 3	GLH: 20
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Mapping: This unit is directly related to GoSkills National Occupational Standard Unit 39

Rationale: The purpose of this unit is for learners to demonstrate occupational competency in supporting learners by mentoring in the workplace. It covers the skills and competences required to give learners information and guidance on their work roles and expectations together with giving them encouragement and support to stay motivated. In particular it covers planning the mentoring process, setting up and maintaining the mentoring relationship, and giving mentoring support.

LEARNING OUTCOMES	ASSESSMENT CRITERIA	Ref No	Date
The Learner will:	The Learner can:		
1 Be able to support learners by mentoring in the workplace	1.1. Take action to identify learners' needs and the resources and facilities required to undertake the mentoring role to help them meet these needs 1.2. Identify what sources of information and support there are to help perform the role of mentor 1.3. Take action to agree how progress and any problems will be reviewed during the mentoring process 1.4. Within limits of own responsibility plan and maintain the mentoring process		
2 Know and understand how to support learners by mentoring in the workplace	2.1. Explain relevant health and safety legislation, regulations and working procedures relevant to the workplace 2.2. Describe the role of a mentor 2.3. Explain the mentoring procedures to include rules on confidentiality and their role in the training policy 2.4. Explain the mentoring process, including how to: <ul style="list-style-type: none"> a. identify the benefits of a mentoring programme b. provide opportunities in the workplace for learners to reflect on their performance, develop skills and increase confidence c. plan and monitor mentoring activity 2.5. Describe the personal attributes of effective mentors 2.6. Describe the different problems that can be experienced by all new entrants 2.7. Explain the extent of own responsibility and who problems that cannot be solved should be reported to		



EVIDENCE REQUIREMENTS

Learners should be able to provide mentoring activity to a range of individuals to include, as appropriate:

- New starters
- Individuals unfamiliar with a particular technical matter
- Individuals undertaking training to increase workplace skills
- Individuals experiencing difficulty in specific technical aspects of their work
- Trainees and other on development programmes

Learners should be able to communicate in the following ways:

- Face-to face verbal communication
- Written communication

Mentoring is to support and encourage people to reflect on their performance and manage their own learning in order that they may maximise their potential, develop their skills and improve their performance.

Examples of problems may include those from overseas needing language skills, as well as experienced staff requiring further development in workplace skills.

ASSESSOR SIGNATURE:	PIN NO:	DATE:
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ASSESSOR COMMENTS AND FEEDBACK

Assessor's should comment and give feedback each time they observe a learner or meet with a learner to review evidence. Therefore each time an observation or review of evidence takes place the assessor should enter the date and the evidence number, and make appropriate comments and feedback. Please see the guide below for the type of comments that can be included.

The following provides guidance as to the type of comments that can be included below.

1. A description of the various activities being carried out by the learner for each unit.
2. How the learner has met the Learning Outcomes for each unit.
3. Questions that you have asked, particularly to cover Evidence Requirements, not demonstrated through performance.
4. Questions you have asked to ascertain essential knowledge.
5. Issues arising from assessment.
6. Identification of good or poor performance.
7. Any action required to further develop the learner's knowledge and skills.
8. Constructive feedback to the learner.

Date	Evidence Ref No.	Assessor Comments: Please ensure your comments are concise.



ASSESSOR COMMENTS AND FEEDBACK

CONTINUATION SHEET

Date	Evidence Ref No.	Assessor Comments: Please ensure your comments are concise.