

## CLIMATE CHANGE

**ISCED UNIT CODE:** 0521 451 13A

**TVETCDACC UNIT CODE:** ENV/CU/ENT/CR/04/5/MA

**UNIT DURATION:** 120 HOURS

### **Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Monitor climate change

### **Unit Description**

This unit covers the competencies required to monitor climate impact assessment. It involves carrying out weather data collection, monitoring greenhouse gas emissions and creating awareness on climate change

### **Summary of Learning Outcomes**

By the end of this unit the trainee should be able to:

S/No	Learning Outcomes	Duration (Hours)
1.	Carryout weather data collection	40
2.	2. Monitor greenhouse gas emissions	40
3.	3. Create awareness on climate change	40
<b>Total</b>		<b>120</b>

### **Learning Outcomes, Content and Suggested Assessment Methods**

Learning Outcomes	Content	Suggested Assessment Methods
1. Carryout weather data collection	<b>Theory</b> 1.1. Weather Data Collection 1.1.1. Definition of terms 1.1.2. Climate 1.1.3. Weather	<ul style="list-style-type: none"><li>• Practical</li><li>• Written tests</li><li>• Individual/group assignment</li><li>• Projects</li></ul>

	<p>1.2. Types of weather forecasting instruments</p> <ul style="list-style-type: none"> <li>1.2.1 Thermometer</li> <li>1.2.2 Barometers,</li> <li>1.2.3 Anemometer</li> <li>1.2.4 Rain gauges</li> </ul> <p>1.3 Importance of weather forecasting instrument</p> <p>1.4 Weather Patterns</p> <ul style="list-style-type: none"> <li>1.4.1 Procedure of recording weather patterns</li> <li>1.4.2 Weather patterns recording Techniques</li> </ul> <p>1.5 Maintaining Weather Forecasting Instruments</p> <ul style="list-style-type: none"> <li>1.5.1 Maintenance Procedures</li> <li>1.5.2 Importance of maintaining the equipment</li> </ul> <p><b>Practice</b></p> <p>1.6 Carry out weather pattern recording</p>	<ul style="list-style-type: none"> <li>• Interviews/ Oral questions</li> <li>• Third party</li> <li>• Case Studies</li> </ul>
2. Monitor greenhouse gas emissions	<p>2.1 Greenhouse gas Emission</p> <ul style="list-style-type: none"> <li>2.1.1 Definition and types of greenhouse gases CO<sub>2</sub>, methane, nitrous oxide</li> <li>2.1.2 Sources and effects on climate change</li> </ul> <p>2.2 Greenhouse Gas Determination Tools</p> <ul style="list-style-type: none"> <li>2.2.1 Types of Determination Tools</li> </ul> <p>2.3 Measuring Greenhouse Gas Emissions</p> <ul style="list-style-type: none"> <li>2.3.1 Measurement Techniques <ul style="list-style-type: none"> <li>2.3.1.1 Direct Measurement</li> <li>2.3.1.2 Remote Sensing</li> <li>2.3.1.3 Modelling and Estimation</li> </ul> </li> </ul> <p>2.4 Steps in Measurement</p>	<ul style="list-style-type: none"> <li>• Practical</li> <li>• Written tests</li> <li>• Individual/group assignment</li> <li>• Projects</li> <li>• Interviews/ Oral questions</li> <li>• Third party</li> <li>• Case Studies</li> </ul>

	<p>2.5 Significance of measuring greenhouse gases</p> <p>2.6 Greenhouse gas emission reduction awareness</p> <p>    2.6.1 Strategies for Raising Awareness</p> <p>2.3 Monitoring Greenhouse Gas Emissions</p> <p>    2.3.1 Methods of monitoring GHG emission</p> <p>    2.3.2 Steps of Monitoring GHG emission</p> <p>    2.3.3 Regulatory Framework Monitoring GHG emission</p> <p><b>Practice</b></p> <p>2.2 Carry out GHG emission monitoring</p>	
3. To create awareness on climate change	<p><b>Theory</b></p> <p>3.1 Climate change</p> <p>    3.1.1 Causes of climate change</p> <p>    3.1.2 Impacts of climate change</p> <p>3.2 Climate Change Awareness</p> <p>    3.2.1 Data collection strategies</p> <p>    3.2.2 Climate change awareness Strategies</p> <p>3.3 Climate change intervention measures</p> <p>    3.3.1 Mitigation strategies</p> <p>    3.3.2 Adaptation strategies</p> <p>    3.3.3 Policy and governance</p> <p><b>Practice</b></p> <p>3.4 Carry out climate change awareness campaigns</p>	<ul style="list-style-type: none"> <li>• Practical</li> <li>• Written tests</li> <li>• Individual/group assignment</li> <li>• Projects</li> <li>• Interviews/ Oral questions</li> <li>• Third party</li> <li>• Case Studies</li> </ul>

### Suggested Methods of Instruction

- Demonstration

- Role playing
- Group discussion
- Direct instruction

### **Recommended Resources for 25 trainees**

S/No.	Category/Item	Description/ Specifications	Quantity	Recommended Ratio (Item: Trainee)
<b>A</b>	<b>Learning Facilities &amp; infrastructure</b>			
1.)	Lecture/theory room		1	1:25
2.)	Laboratory		1	1:25
<b>B</b>	<b>Tools and Equipment</b>			
1.)	Rain gauge		10 pcs	1:5
2.)	Wind vane		25pcs	1:1
3.)	Thermometer		25 pcs	1:1
4.)	Sechi disc		10pcs	1.5
5.)	Lightning detector		10 pcs	1.5
6.)	Windsock		10 pcs	1.5