

## G633: Ecology and Managing the Environment – Sample Assignment B

### PREPARATORY WORK

<b>Unit Name:</b> Ecology and Managing the Environment	<b>Unit Number:</b> G633
<b>Assignment Title:</b> Preparatory Work for <i>Sample Assignment B</i> - Planned Investigation of an Ecosystem	
<b>Date Set:</b>	<b>Due Date:</b>

#### Assessment Information:

Before you begin to plan *Unit G633: Sample Assignment B - 'Planned investigation of an ecosystem'*, it is essential that you are aware of the possible techniques and methods available to you.

Work through the following tasks and then use the techniques you have learned to carry out the requirements for assessment by using *Sample Assignment B*.

#### Task a:

During your planned investigation you will need to prepare a risk assessment for the work carried out. This will need to be specific to the investigation you eventually carry out.

In preparation, you should consider the following, and any others you can think of, in a fieldwork context:

- potential hazards
- what could go wrong
- safety precautions
- what to do in case of an accident
- assess the level of risk.

#### Task b:

You need to carry out preliminary work to research and practice the techniques available to ecologists for making measurements of physical factors within ecosystems.

These could include:

- temperature – thermometers, data-loggers, and/or thermistors
- pH – indicators, pH meters and/or data-loggers
- oxygen content – electrodes, data-loggers, chemical techniques
- salinity – density methods, conductivity, titration

- solutes – using chemical methods e.g. testing kits for nitrates, phosphates
- pollutants – indicator species, e.g. Trent Biotic Index, River Invertebrate Prediction and Classification System (RIVPACS)
- organic matter – using turbidity measurements
- microorganisms – using plating techniques
- light intensity – light meters, data-loggers.

#### **Task c:**

You need to carry out preliminary work to research and practice the sampling techniques available to ecologists to determine the distribution and frequency of organisms within ecosystems should be carried out.

These could include:

- quadrats
- line transect
- belt transect
- frequency
- species density
- species cover.

#### **Task d:**

You need to carry out preliminary work to research and practice the methods available to ecologists to display ecological data. These could include:

- line graphs
- bar graphs
- histograms
- kite diagrams
- pictographs
- pie graphs
- rose diagrams
- scatter graphs.