Improve
food & drink sector skills council

645 Principles of Statistical Process Control procedures(SPC) in a food environment		
SQA Unit Code	**H15Y 04**	
Level 3	**SCQF Level 6**	**SCQF Credit value 3**

Unit Summary

This unit is about understanding the principles of Statistical Process Control (SPC) procedures systems as part of your organisation's drive to achieve excellence in food and drink manufacture and/or supply operations. This is important to the productivity and success of manufacture, processing and supply of food and drink within the food supply chain. Understanding current operational practice is central to the implementation of change, improvement, new practice, targets and a performance driven culture.

You will need to understand the principles and procedures of statistical process control within improvement projects. You will need to know how to accurately present findings of analysis to relevant people within the organisation, including senior management. You will need to comply with your company policy for improvement, take responsibility for your actions, and refer any issues outside of the limit of your authority to others.

This unit is for you if your role requires you to analyse the performance of current operational practice in food and drink manufacture or supply. You may be a front line manager or supervisor and/or have responsibilities for all or part of the production/supply process.

In order to be assessed as competent you must demonstrate to your assessor that you can consistently perform to the requirements set out below. Your performance evidence must include at least one observation by your assessor.

You need to know and understand:

Evidence of knowledge and understanding should be collected during observation of performance in the workplace. Where it cannot be collected by observing performance, other assessment methods should be used.

1. How the health, safety and hygiene requirements of a work area can influence statistical process control
1. What is statistical process control
2. The techniques used as part of statistical process control
3. Where and why statistical process control is used and the benefits it offers
4. Where process control fits within a continuous improvement environment
5. The importance of process performance to customer satisfaction and process costs
6. The importance of standardisation within a process operation
7. Why process performance can only be determined when it is controlled
8. How process control can improve process performance
9. The benefits of prevention and detection

10.	Common cause variation within food processing, and the impact it can have
11.	Special cause variation within food processing, and the impact it can have
12.	The application of data gathering and analysis techniques within food manufacture
13.	How data can be used to communicate abnormalities within a process
14.	The main types of control charts used for SPC, their features and benefits
15.	The meaning of a 'population' and a 'sample'
16.	The measurements of central tendency and variability
17.	The properties of a normal curve of distribution
18.	The charts or diagrams available for use
19.	The terms mean, median, mode, standard deviation, range and variance
20.	Process capability (Cp and Cpk) and how it is determined
	Levels of authority linked to problem resolution

Evidence of performance may employ examples of the following assessment:
- observation
- written and oral questioning;
- evidence from company systems (e.g. Food Safety Management System)
- reviewing the outcomes of work
- checking any records of documents completed
- checking accounts of work that the candidate or others have written