

648 Principles of response surface methodology in a food environment

SQA Unit Code

H162 04

Level 3

SCQF Level 7

SCQF Credit value 4

Unit Summary

This unit is about understanding the principles and application of Response Surface Methodology 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 application of Response Surface Methodology in adequate depth to provide a sound basis for carrying out the activities to meet the business objectives set out in your achieving excellence strategy. 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 the application of Response Surface Methodology
2. The use of Response Surface Methodology and how it can be used in a Six Sigma improvement project to deliver the objectives set in an achieving excellence strategy
3. Response Surface Methodology and its associated tools and techniques
4. The data necessary to carry out a Response Surface Methodology project
5. What a statistically valid sample size is
6. The meaning of population and a sample in terms of a Response Surface Methodology activity
7. What is meant by a method of steepest ascent

8. What is meant by the terms: coded variables and un-coded variables
9. What is meant by Alpha risk and Beta risk
10. How to calculate: Mean, Median, Mode, Standard Deviation, Range and Variance
11. How to determine the cost benefits associated with Response Surface Methodology
12. 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