



Australian Government

Assessment Requirements for FBPTEC4007

Describe and analyse data using mathematical principles

Release: 1

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Modification History

Release	Comments
Release 1	This version released with the FBP Food, Beverage and Pharmaceutical Training Package Version 2.0.

Performance Evidence

An individual demonstrating competency in this unit must satisfy all of the elements and performance criteria of this unit.

There must be evidence that the individual has accurately described and analysed food processing data and capability using mathematical principles, including each of the following:

- identifying and using the appropriate International System of Units (SI) of measurement
- applying relevant formulae to measure a specific physical characteristic of a food product or processes
- selecting calculation requirements (such as adjusting a recipe formulation) to:
 - select required formulae
 - express the problem as an equation
 - identify the known and unknown values
 - manipulate equations by transposing values as required
 - convert units into compatible formats (i.e. SI units, multiples and sub-multiples)
 - calculate percentages and ratios
 - conduct the calculation to obtain a solution
- calculating standard deviation for a specified set of data, using the correct formula
- constructing a statistical process control (SPC) chart
- identifying mean, median and mode
- identifying upper and lower control limits for a specific food processing scenario
- recording the result in the appropriate units and level of detail.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- SI units of measurement and related unit symbols relevant to the food industry
- the principles of transposing values to solve workplace problems

- relevant formulae to measure physical characteristics of food products or processes
- processes for developing charts and graphs
- variety of calculations to determine unknown values, including:
 - percentages and ratios
 - standard deviation
 - conversion of units into compatible formats
 - target (mean value) for the process
 - upper and lower control limits
 - heat transfer rates
 - pressure
- commonly derived units/measurements, related formulae and their application in a food processing context, including:
 - density and specific gravity
 - viscosity
 - temperature
 - volume, weight and mass
 - vector and scalar quantities
 - velocity
 - other measures as appropriate to a production process.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- resources, equipment and materials:
 - production processing information
 - workplace documentation, including sampling plans
- specifications:
 - control chart formats
 - data collection methods and log sheets.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guides are found in VETNet: -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>