Modification history

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

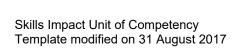| FBPTEC4011	Establish process capability
Application	This unit of competency describes the skills and knowledge required to study process data to determine process capability using statistical process control techniques. This unit applies to people responsible for establishing control charts and related sampling plans. It applies to individuals who take responsibility for their own work, and provide and communicate solutions to a range of predictable and sometimes unpredictable problems. No licensing, legislative or certification requirements apply to this unit at the time of publication.
Prerequisite Unit	The prerequisite unit of competency for this unit is: • FBPTEC4007 Describe and analyse data using mathematical principles.
Unit Sector	Technical (TEC)

Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Prepare to conduct a capability study	1.1 Identify the scope and purpose of the process 1.2 Determine a representative data sample 1.3 Select data collection techniques 1.4 Collect data to meet sampling requirements
2. Analyse data to determine process capability	2.1 Select and apply appropriate statistical analysis techniques 2.2 Identify process stability and extent of variation 2.3 Determine the target mean for the process 2.4 Calculate process control parameters 2.5 Specify related data sampling requirements 2.6 Compare and analyse data sets for process performance 2.7 Determine process capability

Foundation Skills	
This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.	
Skill	**Description**
Reading	• Critically analyse documentation from a variety of sources, and consolidate data for analysis
Writing	• Document outcomes and results of data collection and analysis using industry relevant terminology and recognised symbols
Numeracy	• Perform mathematical calculations to analyse production and process information to accurately determine performance and capability

Unit Mapping Information			
Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**

| FBPTEC4011 Establish process capability | FDFPPL4005A Establish process capability | Updated to meet Standards for Training Packages

Updated prerequisites

Unit code updated to reflect appropriate sector

Minor changes to Performance Criteria for clarity | Equivalent unit |
|---|---|---|---|

Links	Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4

TITLE	Assessment requirements for FBPTEC4011 Establish process capability

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 established process capability on at least one occasion, including:
- establishing process scope, boundaries and related information on process purpose, including product or process specifications where available
- applying sampling techniques to determine nature and extent of data collection to provide a reliable indication of process performance
- selecting and applying data collection methods
- confirming that data collected is complete and complies with sampling requirements
- identifying characteristics of a normal distribution
- applying appropriate statistical techniques, including standard deviation to analyse data, and techniques to distinguish common and special causes of variation
- establishing process capability, including establishing upper and lower limits and instructions for identifying and responding to trends
- developing a related data sampling plan, including advice on sampling regimes following corrective action.

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:
- data collection requirements and techniques for collection of actual (quantitative) and variable data, including both automated (using software) and manual techniques (carried out by operators and involving communicating requirements and designing appropriate formats for recording data)
- techniques to determine and validate a sampling plan capable of providing reliable information representative of the total population
- appropriate formats for presenting sampling plan requirements and related communication systems
- statistical process control techniques and conditions for application
- workplace conventions/formats for presenting and monitoring process capability information, including control chart including a target mean, upper and lower limits and advice on how to interpret and confirm trends, and upper and lower warning limits where required
- process knowledge to identify possible causes of special variation
- difference between a stable process and a capable process, and action required to improve process performance in each case.

Assessment Conditions

Assessment of skills must take place under the following conditions:
- physical conditions:
  - skills must be demonstrated in a workplace setting or an environment that accurately represents a real workplace
- resources, equipment and materials:
  - data collection requirements and technique
  - communication systems
- specifications:
  - statistical process control techniques and conditions.

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

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