

Information sheet for proposed FBP50X18 Diploma of Food Science and Technology

This qualification reflects the role of workers who apply knowledge and skills in food science and technology to food product development and to quality assurance of food manufacturing. They conduct a wide range of specialist tasks to develop, monitor and evaluate food products, including production trials.

Roles covered include Food technologist, Food product developer/designer, Quality assurance supervisor/manager, Operations manager, Food product commercial manager

Core Units

Core units cover the key functions of the job roles targeted by the qualification.

Unit code	Unit title	Summary of unit content
FBPFST4004	Perform microbiological procedures in the food industry	Performing basic microbiological tests, setting up a microscope Knowledge of: <ul style="list-style-type: none"> • aseptic techniques • basic microbiology as it relates to food
FBPFST4010	Apply sensory analysis in food processing	Describing organoleptic properties of food and coordinating a panel for sensory testing Knowledge of: <ul style="list-style-type: none"> • organoleptic properties of food • the various sensory evaluation tests used with food
FBPFST5005	Evaluate the biochemical properties of food	Identifying biochemical compounds and biochemical reactions in food Performing biochemical tests and interpreting results Knowledge of: <ul style="list-style-type: none"> • biochemical compounds • the chemical and physical behaviour associated with carbohydrates, amino acids, proteins and lipids in terms of molecular theory • tests used to identify biochemical materials
FBPFST5006	Apply food microbiological techniques and analysis	Microbiological techniques and tests that relate to food Knowledge of: <ul style="list-style-type: none"> • microorganism growth in food • bacteria • fermentation micro-organisms • cultures and sub-cultures • critical control limits • analysis of microbiological data (builds on FBPST4010)
FBPFST5001	Develop a food safety plan	Develop a Critical Control Plan (CCP) Knowledge of: <ul style="list-style-type: none"> • CCP based principles • procedures for establishing critical limits • main types of food hazards likely to occur • conditions required for bacterial poisoning • acceptable control methods
FBPFST5002	Determine required process control for a food processing operation	Set up processes for a food processing operation, including determining control mechanisms, modes of control and data collection points, establishing operating standards, capabilities and maintenance requirements Knowledge of: <ul style="list-style-type: none"> • data analysis methods for process control • instrumentation and control systems
FBPFST5030	Develop, manage and maintain quality systems for food processing	Quality systems within an organisation, quality management principles, organisational structure, role of audits (links to FBPFST5001)

Unit code	Unit title	Summary of unit content
FBPTEC4004	Apply basic process engineering principles to food processing *	Overseeing equipment used for heat transfer, refrigeration, pumping, evaporation and drying Knowledge of: Features and components of pumps, drying equipment, evaporation equipment
FBPTEC4006	Apply an understanding of legal requirements of food production	Covers knowledge of legislation and regulations that relate to food safety, includes Food Standards Code and WHS
FBPTEC4007	Describe and analyse data using mathematical principles*	Numeracy skills for analysis of food measures and test data, control limits, standard deviations
BSBWHS401	Implement and monitor WHS policies, procedures and programs to meet legislative requirements	Overseeing WHS requirements of a team
MSMENV472	Implement and monitor environmentally sustainable work practices	Understanding and applying environmental legislation, regulations, guidelines and codes of practice to a workplace to improve resource usage and improve efficiency targets
MSS407012	Lead a process to determine and solve root cause for a complex problem	Guide or lead a problem-solving process to solve complex and/or unusual problems in a competitive systems environment

Elective units

Elective units provide optional choices for learning and assessment to complete the qualification. The qualification specifies the rules for how many units can be chosen.

Unit code	Unit title	Summary of content of unit
BSBPMG522	Undertake project work	Develop a project plan, administer and monitor a straightforward project or a section of a larger project, then review
BSBRES401	Analyse and present research information	Research information about a particular issue, analyse options and present findings
FBPFST4012	Apply water management principles to the food industry	Monitor and manage water quality and usage in a food processing operation
FBPFST5004	Specify and monitor the nutritional value of processed food	Evaluate nutritional value of processed food, determine nutritional requirements for processed food Knowledge of: <ul style="list-style-type: none"> • legal requirements for nutritional labelling food products • role of proteins, carbohydrates, vitamins and minerals, fibre, lipids in a diet
FBPFST5007	Evaluate sampling plans in relation to food industry standards	Examine sampling concepts within food processing, including sample size, Acceptable Quality Level (AQL Operating Characteristic (OC) Curve, single and double loop sampling, analysing and evaluating results.
FBPFST5008	Develop a new food product	Develop a new product, from a concept to a packaged and labelled finished product, including determining processing parameters and trialling
FBPTEC4005	Apply an understanding of food additives	Recognise the characteristics and functions of food additives, preservatives, colours and flavours used in food products Knowledge of: <ul style="list-style-type: none"> • coding system(s) for describing additives • legal requirements relating to additives as established by relevant food safety legislation
FBPTEC5001	Manage and evaluate new product trials	Establish trial parameters, run a trial and evaluate results

Unit code	Unit title	Summary of content of unit
FBPTEC5002	Manage utilities and energy for a production process	Assess utility requirements, identify suppliers, and monitor, conserve and control the cost of utility and energy supply for a production process Knowledge of: <ul style="list-style-type: none"> • methods to measure and assess usage rates of energy and utilities • suppliers • energy conservation and continuous improvement techniques
MSL974004	Perform food tests	Prepare samples and perform basic food tests. Knowledge of: <ul style="list-style-type: none"> • microbiological principles as they relate to food • purpose of tests for food • ions, atoms, molecules, bonding, affinities and related properties • chemical reactions (acid/base and compleximetric) • structure and properties of proteins, lipids, carbohydrates, vitamins and minerals
MSL974006	Perform biological procedures	Classify organisms and biologically active compounds by analysing their biological and/or chemical characteristics Knowledge of: <ul style="list-style-type: none"> • basic biological concepts, cell types • basic structure and function of including carbohydrates, fats and amino acids • basic role of biological significance of ions, including calcium, iron, magnesium, sodium, potassium, chloride and phosphate
MSL975005	Conduct sensory analysis	Carry out a sensory analysis test Knowledge of: <ul style="list-style-type: none"> • texture, aroma and flavour • the primary flavour characteristics of sweet/sour, umamic and bitter/salty • principles and purpose of test methods • data analysis
MSL975022	Perform food analyses* <i>MSL974004A Perform food tests</i>	Analyse the nutrient and ingredient composition of food, including recognising and quantifying chemical and biological contaminants Knowledge of: <ul style="list-style-type: none"> • structure, properties and nutritional value of proteins, lipids, carbohydrates, vitamins and minerals and fibre • chemical composition of common food • key food processing and preservation techniques, • glycaemic index (gi) and its significance • food testing methods • how to interpret results
MSS405001	Develop competitive systems and practices for an organisation	Develop new strategies for competitive systems and practices or make improvements to existing systems and practices
MSS405007	Introduce competitive systems and practices to a small or medium enterprise	Analyse current operations, develop strategic and tactical plans, implement competitive systems and practices into small or medium operations
FBPFST5023	Review standards and procedures for the production of milk fat products	Food sector specific units
FBPFST5024	Review production standards and procedures for manufacture of fermented dairy products and dairy desserts	

Unit code	Unit title	Summary of content of unit
FBPFST5025	Review production standards and procedures for manufacture of concentrated and dried dairy products	
FBPFST5026	Review standards and procedures for the production of ice creams and frozen dairy products	
FBPFST5027	Review the standards and procedures for production of milk and related products using the membrane system	Food sector specific units
FBPFST4033	Review standards and procedures for the production of chocolate products	
FBPFST4035	Review standards and procedures for the processing of high and low boil confectionery	
FBPFST4036	Review standards and procedures for the processing of confectionery products	
FBPFST4050	Review product safety and quality procedures for processing of fruit, vegetables & other produce	
FBPFST4052	Review production system for manufacturing and processing of edible fats and oils	
FBPFST4054	Review product safety procedures for manufacturing of cereal products	

This information prepared by Skills Impact is a general summary of content from draft documents that are currently being reviewed as part of a project to review qualifications in the Food, Beverage and Pharmaceutical Training Package.

Please visit the [Skills Impact website](#) to view and provide feedback on the complete draft units of competency and qualifications referred to here.