



**AUSTRALIAN
NATIONAL TRAINING
AUTHORITY**

Food Processing Industry

FDF 98

Petfood Competency Units

**NATIONAL FOOD INDUSTRY
TRAINING COUNCIL**

Qualification	Code
Certificate III in Food Processing	FDF30198
Certificate II in Food Processing	FDF20198
Certificate I in Food Processing	FDF10198

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FDF PFDC1 A	Locate industry and company products and processes (Petfood)
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Descriptor This is a specialist unit that has been customised for the petfood processing industry. It covers the products and processes used in the workplace.

Range of variables

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Processes and procedures are carried out within company policy and procedures and legislative requirements
- Petfood manufacturing processes typically include packing, grain receipt, flour blending, flour pre-mix, extrusion, filling, retorting, baking, mixing and grinding
- Stages refer to functions or activities in the production, packaging and despatch processes.

Element	Performance criteria	Evidence guide – Part A
Identify products and quality requirements	Company product range is identified Quality requirements of final products are identified in accord with company specifications	Part A of the Evidence guide identifies the knowledge to be demonstrated to confirm competence for this unit. Part B of the Evidence Guide outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.

<p>Identify and locate production and packaging processes</p>	<p>Raw materials and related handling systems are located and operated as required</p> <p>Production and packaging stages and processes are identified</p> <p>Equipment used for each stage is located</p>	<p>Ability to:</p> <ul style="list-style-type: none"> – access workplace information to identify materials and production requirements – identify and locate materials used in the work process – identify and location production and/or packaging stages and process in the workplace – comply with OHS and food safety requirements when moving around the workplace <p>Underpinning knowledge:</p> <ul style="list-style-type: none"> – range of final products produced by the company – quality requirements/specifications for final products – consequences of product failing to meet quality requirements – stages and processes used to manufacture and package product – basic purpose of equipment used at each stage – outputs at each stage of the process – raw materials/consumables used – preparation, packaging, handling and storage of finished product prior to sale – OHS, quality, food safety and environmental requirements relating to own work
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Evidence guide – Part B

Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to describe petfood processing products and processes given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production systems, stages and processes
- raw materials, in-process and finished product requirements and/or specifications

Relationship to other units

Co-requisites:

- Communicate in the workplace
- Apply basic mathematical concepts
- Apply safe work procedures
- Apply basic quality assurance practices
- Apply basic food safety practices

Relationship to learning resources

Main learning resources:

- There are no specific learning resources currently available for this sector of the food industry

Related learning resources:

- Industrial Communication A
- Calculations A
- Occupational Health & Safety A
- Quality Assurance A
- Food Safety A (Hygiene and Sanitation A)

FDF PFFC2 A	Fill, close and inspect can seams (Petfood)
Descriptor	This is a specialist unit that has been customised for petfood processing sector. It covers the principles, equipment and procedures used to can product

Range of variables

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications, production schedules and batch/recipe instructions
- Production equipment may include can filling and seaming equipment and conveying systems
- Materials include wet petfood mix, process and packaging consumables. Product can be hot or cold filled
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational. It may also involve checking operating/calibration of measuring instrumentation

- Services may include power, steam, water, vacuum, compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process that must be monitored and controlled. This includes food safety (critical), quality and regulatory control points as well as inspections points
- Can seam components include body hook, end hook, countersink, seam thickness and seam juncture
- Precision measuring instruments may include micrometers and countersink gauges
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide
Prepare the canning process for operation	<p>Materials are confirmed and available to meet production specifications</p> <p>Services are confirmed as available and ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The canning process is set to meet production specifications</p>	<p>This part of the evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. The Assessment guide and context following, outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p>Demonstrated ability to:</p>
Operate and monitor the canning process	<p>The process is started up according to company procedures</p>	<ul style="list-style-type: none"> - access workplace information to identify production requirements - confirm supply of necessary materials and services. - select fit and use personal protective clothing and or equipment - liaise with other work areas. This may include storage and packaging areas - confirm equipment status and condition - set-up and start up equipment - manufacture canned product to specification

Element	Performance criteria	Evidence guide
<p>Operate and monitor the canning process</p>	<p>Control points are monitored to confirm product meets specification</p> <p>Filled and closed cans meet specifications</p> <p>Equipment is monitored to confirm operating condition</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> <p>Waste generated by the process is monitored and cleared as required</p>	<ul style="list-style-type: none"> - monitor filling process to identify out -of- specification results or non-compliance. This may include monitoring for <ul style="list-style-type: none"> ➤ temperature ➤ weight ➤ headspace ➤ line speed ➤ vacuum ➤ visual parameters of product - monitor closing process to identify out -of- specification results or non-compliance. This includes conducting double seam evaluations and monitoring for: <ul style="list-style-type: none"> ➤ alignment and formation of seam ➤ coding - take corrective action in response to out-of- specification results or non-compliance - report and/or record corrective action as required - monitor supply and flow of materials to and from the process. - sort, collect, treat, recycle or dispose of waste - conduct product/batch/line changeovers - shut down equipment in response to an emergency situation - shut down equipment in response to routine shut down requirements - prepare equipment for cleaning - maintain workplace records - maintain work area to meet housekeeping standards <p>May include the ability to:</p> <ul style="list-style-type: none"> - clean and sanitise equipment - take samples and conduct tests - carry out routine maintenance - identify, rectify and/or report environmental non-compliance <p>Underpinning knowledge:</p> <ul style="list-style-type: none"> - purpose and basic principles of canning products. - purpose of each stage in the canning process and links to related stages. Stages can include: <ul style="list-style-type: none"> ➤ filling, ➤ sealing ➤ coding ➤ seam inspection - effect of quality of materials on process outcomes. This includes an understanding of the methods used to prepare product for filling - effect of each stage on the quality of end product (<i>cont.</i>)

Element	Performance criteria	Evidence guide
Shutdown the process and clean equipment	<p>The process is shut-down according to company procedures</p> <p>Equipment is prepared for cleaning</p> <p>Waste generated by the process is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> – effect of process variables such as headspace, temperature and vacuum on the process and final product quality – measuring instrumentation and application to seam measurement – quality parameters for cans and ends – quality parameters and characteristics of canned products – process specifications, procedures and operating parameters for canning product. – production requirements and schedules – equipment and instrumentation components, purpose and operation
Record information	Workplace information and test results are recorded in the appropriate format	<ul style="list-style-type: none"> – basic operating principles of process control system where relevant – services used – significance and methods of monitoring control points within the process – common causes of variation and corrective action required – OHS hazards and controls – lock out and tag out procedures – procedures for diagnosing, rectifying and reporting faults – environmental aspects, impacts and controls – shut down and cleaning requirements associated with changeovers and types of shut downs – waste handling requirements and procedures – recording requirements and procedures <p>May include knowledge of:</p> <ul style="list-style-type: none"> – cleaning and sanitation procedures – sampling and testing procedures – routine maintenance procedures – environmental management procedures

Evidence guide (continued)

Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.

- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to prepare and operate the filling, closing and seam inspection process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- storage systems, procedures and processes
- production schedule and recipes
- specifications, control points and processing parameters
- filling, closing and seam inspection equipment
- sampling and testing schedules and procedures, as required
- services
- material safety data sheets as required
- routine preventative maintenance schedule as required
- cleaning schedule as required
- documentation and record keeping system

Relationship to other units

Pre-requisites or equivalent

- Communicate in the workplace
- Apply basic mathematical concepts
- Apply safe work procedures
- Apply basic quality assurance practices
- Apply basic food safety practices

Co-requisites:

- Collect, present and apply workplace information
- Implement occupational health and safety principles and procedures
- Implement quality system
- Implement food safety plan

Related units:

- Conduct routine tests
- Apply sampling techniques
- Clean and sanitise equipment
- Conduct routine preventative maintenance

Where related units are required to operate the filling, closing and seam inspection processes in the workplace, units should be co-assessed.

Relationship to learning resources

Main learning resources:

- Filling, Closing and Seam Inspection

Related learning resources:

- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B
- Food Safety B (Hygiene and Sanitation B and C)
- Routine Testing
- Cleaning and Sanitation

FDF PFWP2 A	Manufacture wet petfood products
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Descriptor This is a specialist unit that has been developed for petfood processing sector. It covers the principles, equipment and procedures used to manufacture wet products

Range of variables

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications, production schedules and batch/recipe instructions
- Production equipment may include cookers, grinders, dicers, and conveying systems
- Materials include raw materials (bulk or non bulk), additives, water, ingredients, process and packaging consumables
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Services may include power, steam, water, vacuum, compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process that must be monitored and controlled. This includes food safety (critical), quality and regulatory control points as well as inspections points
- Work is carried out in the presence of moving vehicles and equipment
- Work may involve exposure to chemicals, dangerous or hazardous substances
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide
Prepare the process for operation	Materials are confirmed and available to meet production specifications Services are confirmed as available and ready for operation Equipment is checked to confirm readiness for use The process is set to meet production specifications	This part of the evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. The Assessment guide and context following, outlines how this guide is to be applied. It should be read in conjunction with the Range of variables. Demonstrated ability to:

<p>Operate and monitor the process</p>	<p>The process is started up according to company procedures</p>	<ul style="list-style-type: none"> - access workplace information to identify production requirements - confirm supply of necessary materials and services. This also involves identification of product categories and type. - select fit and use personal protective clothing and or equipment - liaise with other work areas. This may include storage and packaging areas - confirm equipment status and condition of equipment . This may involve the rotation or replacement of cutting blades - set-up and start up equipment (<i>cont..</i>)
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Element	Performance criteria	Evidence guide
<p>Operate and monitor the process</p>	<p>Materials are batched, prepared, blended and cooked to specification</p> <p>Control points are monitored to confirm product meets specification</p> <p>Wet product meets specification</p> <p>Equipment is monitored to confirm operating condition</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> <p>Waste generated by the process is monitored and cleared as required</p>	<ul style="list-style-type: none"> - manufacture wet product to specification - monitor batching process to identify out -of-specification results or non-compliance. This may include monitoring for <ul style="list-style-type: none"> ➤ raw product quality ➤ product grade and type - monitor preparation (grinding/dicing) process to identify out -of-specification results on non-compliance. This may include monitoring for <ul style="list-style-type: none"> ➤ product flow rate ➤ size - monitor blending and cooking process to identify out -of-specification results on non-compliance. This may include monitoring for <ul style="list-style-type: none"> ➤ colour ➤ consistency ➤ moisture content ➤ protein and fat ➤ smell ➤ temperature - take corrective action in response to out-of-specification results or non-compliance - report and/or record corrective action as required - monitor supply and flow of materials to and from the process. - sort, collect, treat, recycle or dispose of waste - conduct product/batch/line changeovers - shut down equipment in response to an emergency situation - shut down equipment in response to routine shut down requirements - prepare equipment for cleaning - maintain workplace records - maintain work area to meet housekeeping standards <p>May include the ability to:</p> <ul style="list-style-type: none"> - clean and sanitise equipment - take samples and conduct tests - carry our routine maintenance - identify, rectify and/or report environmental non-compliance <p>Underpinning knowledge:</p> <ul style="list-style-type: none"> - purpose and basic principles of manufacturing wet products. - purpose of each stage in the process and links to related stages - effect of quality of materials on process outcomes (<i>cont.</i>)

Element	Performance criteria	Evidence guide
Shutdown the process and clean equipment	<p>The process is shut-down according to company procedures</p> <p>Equipment is prepared for cleaning</p> <p>Waste generated by the process is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> – effect of each stage on the quality of end product – quality parameters and characteristics of wet products – process specifications, procedures and operating parameters for manufacturing wet product. – production requirements and schedules – relationship between through put, equipment settings and quality of end product – equipment and instrumentation components, purpose and operation – basic operating principles of process control system where relevant
Record information	Workplace information and test results are recorded in the appropriate format	<ul style="list-style-type: none"> – services – significance and methods of monitoring control points within the process – common causes of variation and corrective action required – OHS hazards and controls – lock out and tag out procedures – procedures for diagnosing, rectifying and reporting faults – environmental aspects, impacts and controls – shut down and cleaning requirements associated with changeovers and types of shut downs – waste handling requirements and procedures – recording requirements and procedures <p>May include knowledge of:</p> <ul style="list-style-type: none"> – cleaning and sanitation procedures – sampling and testing procedures – routine maintenance procedures – environmental management procedures

Evidence guide (continued)

Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.

- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to prepare and operate the grinding/dicing, blending, and cooking process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- storage systems, procedures and processes
- production schedule and recipes
- specifications, control points and processing parameters
- grinding/dicing, blending and cooking equipment
- sampling and testing schedules and procedures, as required
- services
- material safety data sheets as required
- routine preventative maintenance schedule as required
- cleaning schedule as required
- documentation and record keeping system

Relationship to other units

Pre-requisites or equivalent

- Communicate in the workplace
- Apply basic mathematical concepts
- Apply safe work procedures
- Apply basic quality assurance practices
- Apply basic food safety practices

Co-requisites:

- Collect, present and apply workplace information
- Implement occupational health and safety principles and procedures
- Implement quality system
- Implement food safety plan

Related units:

- Conduct routine tests
- Apply sampling techniques
- Clean and sanitise equipment
- Conduct routine preventative maintenance

Where related units are required to operate the grinding/dicing, blending and cooking processes in the workplace, units should be co-assessed.

Relationship to learning resources

Main learning resources:

- Manufacture wet product

Related learning resources:

- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B
- Food Safety B (Hygiene and Sanitation B and C)
- Routine Testing
- Cleaning and Sanitation

FDF PFMF2 A

Mix, form and bake product

Descriptor

This is a specialist unit that has been developed for petfood processing sector. It covers the preparation and operation of the dough mixing, forming and baking process to manufacture biscuits

Range of variables

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications, production schedules and batch/recipe instructions
- Production equipment may include storage hoppers, mixers, formers, moulders and cutters, ovens, and conveying systems.
- Oven components/controls typically include, oven bands, flues, dampers, burners, fans, and air/gas controls.
- Materials include raw materials (bulk and minor), additives, water, process and packaging consumables
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Services may include power, steam, water, vacuum, compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process that must be monitored and controlled. This includes food safety (critical), quality and regulatory control points as well as inspections points
- Work is carried out in the presence of moving vehicles and equipment
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide
Prepare the biscuit making process for operation	<p>Materials are confirmed and available to meet production specifications</p> <p>Services are confirmed as available and ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The biscuit making process is set to meet production specifications</p>	<p>This part of the evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. The Assessment guide and context following, outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p>Demonstrated ability to:</p> <ul style="list-style-type: none"> - access workplace information to identify production requirements
Operate and monitor the biscuit making process	The biscuit making process is started up according to company procedures	<ul style="list-style-type: none"> - confirm supply of necessary materials and services - select fit and use personal protective clothing and or equipment - liaise with other work areas. This may include storage and packaging areas - confirm equipment status and condition of equipment. This may include the need to mend belts (<i>cont.</i>)

Element	Performance criteria	Evidence guide
<p>Operate and monitor the biscuit making process</p>	<p>Dough is mixed, formed, moulded, cut and baked to specification</p> <p>Control points are monitored to confirm product meets specification</p> <p>Baked product meets specification</p> <p>Equipment is monitored to confirm operating condition</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> <p>Waste generated by the process is monitored and cleared as required</p>	<ul style="list-style-type: none"> - set-up and start up equipment. This typically includes selection and adjustment of cutters moulders and formers for product to be manufactured. It also involves pre checking and pre-running the oven and setting oven bands and controls - monitor dough mixing process to identify out -of-specification results or non-compliance. This may include monitoring for: <ul style="list-style-type: none"> ➤ moisture ➤ visual characteristics ➤ consistency/texture ➤ temperature - monitor forming and cutting process to identify out -of-specification results or non-compliance. This may include monitoring for: <ul style="list-style-type: none"> ➤ thickness ➤ shape ➤ moisture - monitor baking process to identify out -of-specification results or non-compliance. This may include monitoring for <ul style="list-style-type: none"> ➤ size/shape ➤ moisture content ➤ colour ➤ smell ➤ through put - collect and combine excess dough to specifications - take corrective action in response to out-of-specification results or non-compliance - report and/or record corrective action as required. - Monitor supply and flow of materials to and from the process. - sort, collect, treat, recycle or dispose of waste - conduct product/batch/line changeovers - shut down equipment in response to an emergency situation - shut down equipment in response to routine shut down requirements - prepare equipment for cleaning - maintain workplace records - maintain work area to meet housekeeping standards <p>May include the ability to:</p> <ul style="list-style-type: none"> - clean and sanitise equipment - take samples and conduct tests - carry out routine maintenance - identify, rectify and/or report environmental non-compliance (<i>cont.</i>)

Element	Performance criteria	Evidence guide
Shutdown the process and clean equipment	<p>The process is shut-down according to company procedures</p> <p>Equipment is prepared for cleaning</p> <p>Waste generated by the process is collected, treated and disposed or recycled according to company procedures</p>	<p>Underpinning knowledge:</p> <ul style="list-style-type: none"> – purpose and basic principles of manufacturing biscuit products. – purpose of each stage in the process and links to related stages – effect of quality of materials on process outcomes. – effect of each stage on the quality of end product – quality parameters and characteristics of: <ul style="list-style-type: none"> ➢ mixed dough ➢ formed and cut dough ➢ baked product
Record information	Workplace information and test results are recorded in the appropriate format	<ul style="list-style-type: none"> – process specifications, procedures and operating parameters for manufacturing biscuit products. – production requirements and schedules – relationship between through put, equipment settings and quality of end product – equipment and instrumentation components, purpose and operation – basic operating principles of process control system where relevant – services used – significance and methods of monitoring control points within the process – common causes of variation and corrective action required – OHS hazards and controls – lock out and tag out procedures – procedures for diagnosing, rectifying and reporting faults – environmental aspects, impacts and controls – shut down and cleaning requirements associated with changeovers and types of shut downs – waste handling requirements and procedures – recording requirements and procedures <p>May include knowledge of:</p> <ul style="list-style-type: none"> – cleaning and sanitation procedures – sampling and testing procedures – routine maintenance procedures – environmental management procedures

Evidence guide (continued)

Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995.

- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to prepare and operate the mixing, cutting/moulding/forming and baking process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- storage systems, procedures and processes
- production schedule and recipes
- specifications, control points and processing parameters
- mixing, cutting, forming, moulding and baking equipment
- sampling and testing schedules and procedures, as required
- services
- material safety data sheets as required
- routine preventative maintenance schedule as required
- cleaning schedule as required
- documentation and record keeping system

Relationship to other units

Pre-requisites or equivalent

- Communicate in the workplace
- Apply basic mathematical concepts
- Apply safe work procedures
- Apply basic quality assurance practices
- Apply basic food safety practices

Co-requisites:

- Collect, present and apply workplace information
- Implement occupational health and safety principles and procedures
- Implement quality system
- Implement food safety plan

Related units:

- Conduct routine tests
- Apply sampling techniques
- Clean and sanitise equipment
- Conduct routine preventative maintenance

Where related units are required to operate the mixing, cutting/moulding/forming and baking processes in the workplace, units should be co-assessed.

Relationship to learning resources

Main learning resources:

- Manufacture baked product

Related learning resources:

- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B
- Food Safety B (Hygiene and Sanitation B and C)
- Routine Testing
- Cleaning and Sanitation

FDF PFDE2 A

Operate a dry extrusion process

Descriptor

This is a specialist unit that has been developed for petfood processing sector. It covers the principles, equipment and procedures used to manufacture extruded dry product

Range of variables

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications, production schedules and batch/recipe instructions
- Production equipment may include dies, cutters, knives, loading hoppers, pre-conditioners, extruders, expanders, and ovens.
- Materials include pre-mixed/blended product, colourings, additives, process and packaging consumables
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Services may include power, steam, water, vacuum, compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process that must be monitored and controlled. This includes food safety (critical), quality and regulatory control points as well as inspections points
- Work is carried out in the presence of moving vehicles and equipment
- Work may involve exposure to chemicals, dangerous or hazardous substances
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide
Prepare the extrusion process for operation	<p>Materials are confirmed and available to meet production specifications</p> <p>Services are confirmed as available and ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The extrusion process is set to meet production specifications</p>	<p>This part of the evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. The Assessment guide and context following, outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p>Demonstrated ability to:</p> <ul style="list-style-type: none"> - access workplace information to identify production requirements - confirm supply of necessary materials and services - select fit and use personal protective clothing and or equipment - liaise with other work areas. This may include storage and packaging areas - confirm equipment status and condition of equipment . This may also involve inspecting hoppers prior to ingredient receipt - temperature to specification
Operate and monitor the extrusion process	The extrusion process is started up according to company procedures	

Element	Performance criteria	Evidence guide
Operate and monitor the extrusion process	<p>Materials are added in quantities and sequence specified by recipe/batch instructions, blended to specification and available for extrusion process.</p> <p>Control points are monitored to confirm product meets specification</p> <p>Extruded product meets specification</p> <p>Equipment is monitored to confirm operating condition</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> <p>Waste generated by the process is monitored and cleared as required</p>	<ul style="list-style-type: none"> - set-up and start up equipment . This typically includes selection of appropriate dies and cutters for product to be manufactured and the setting of cutter bearings, dies and oven blend and extrude product to specification - monitor blending process to identify out -of-specification results or non-compliance. This may include monitoring for: <ul style="list-style-type: none"> ➤ moisture ➤ smell ➤ colour ➤ consistency (touch/feel/texture) ➤ protein and fat - monitor extrusion process to identify out -of-specification results on non-compliance. This may include monitoring for <ul style="list-style-type: none"> ➤ size/shape/thickness ➤ moisture content ➤ colour ➤ texture ➤ protein and fat ➤ through put - take corrective action in response to out-of-specification results or non-compliance - report and/or record corrective action as required - monitor supply and flow of materials to and from the process. - sort, collect, treat, recycle or dispose of waste - conduct product/batch/line changeovers - shut down equipment in response to an emergency situation - shut down equipment in response to routine shut down requirements - prepare equipment for cleaning - maintain workplace records - maintain work area to meet housekeeping standards <p>May include the ability to:</p> <ul style="list-style-type: none"> ➤ clean and sanitise equipment ➤ take samples and conduct tests ➤ carry our routine maintenance ➤ identify, rectify and/or report environmental non-compliance <p>Underpinning knowledge:</p> <ul style="list-style-type: none"> - purpose and basic principles of manufacturing extruded products. - purpose of each stage in the process and links to related stages

Element	Performance criteria	Evidence guide
Shutdown the process and clean equipment	<p>The process is shut-down according to company procedures</p> <p>Equipment is prepared for cleaning</p> <p>Waste generated by the process is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> – effect of quality of materials on process outcomes. – effect of each stage on the quality of end product – quality parameters and characteristics of ingredients and blended product <ul style="list-style-type: none"> ➤ moisture ➤ smell ➤ colour ➤ consistency – quality parameters for extruded product <ul style="list-style-type: none"> ➤ colour ➤ texture ➤ size ➤ density ➤ moisture ➤ protein and fat ➤ component composition
Record information	Workplace information and test results are recorded in the appropriate format	<ul style="list-style-type: none"> – process specifications, procedures and operating parameters for manufacturing extruded product. – production requirements and schedules – relationship between through put, die size, equipment settings and quality of end product – equipment and instrumentation components, purpose and operation – basic operating principles of process control system where relevant – services used – significance and methods of monitoring control points within the process – common causes of variation and corrective action required – OHS hazards and controls – lock out and tag out procedures – procedures for diagnosing, rectifying and reporting faults – environmental aspects, impacts and controls – shut down and cleaning requirements associated with changeovers and types of shut downs – waste handling requirements and procedures – recording requirements and procedures <p>May include knowledge of:</p> <ul style="list-style-type: none"> ➤ cleaning and sanitation procedures ➤ sampling and testing procedures ➤ routine maintenance procedures ➤ environmental management procedures

Evidence guide (continued)

Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to prepare and operate the blending, extrusion and drying process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- storage systems, procedures and processes
- production schedule and recipes
- specifications, control points and processing parameters
- extrusion, blending and drying equipment
- sampling and testing schedules and procedures, as required
- services
- material safety data sheets as required
- routine preventative maintenance schedule as required
- cleaning schedule as required
- documentation and record keeping system

Relationship to other units

Pre-requisites or equivalent

- Communicate in the workplace
- Apply basic mathematical concepts
- Apply safe work procedures
- Apply basic quality assurance practices
- Apply basic food safety practices

Co-requisites:

- Collect, present and apply workplace information
- Implement occupational health and safety principles and procedures
- Implement quality system
- Implement food safety plan

Related units:

- Conduct routine tests
- Apply sampling techniques
- Clean and sanitise equipment
- Conduct routine preventative maintenance

Where related units are required to operate the blending, extrusion, and drying processes in the workplace, units should be co-assessed.

Relationship to learning resources

Main learning resources:

- Manufacture extruded dry product

Related learning resources:

- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B
- Food Safety B (Hygiene and Sanitation B and C)
- Routine Testing
- Cleaning and Sanitation

Operate a dry extrusion process

FDF PFWE2 A**Operate a wet extrusion process****Descriptor**

This is a specialist unit that has been developed for petfood processing sector. It covers the principles, equipment and procedures used to manufacture extruded wet product

Range of variables

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications, production schedules and batch/recipe instructions
- Production equipment may include silo storage systems, mixing and holding tanks, extruders, dies and cutters, conveying systems, and cooling systems
- Materials include raw materials, additives, water, dry ingredients, ground meat, emulsifiers, process and packaging consumables
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Services may include power, steam, water, vacuum, compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process that must be monitored and controlled. This includes food safety (critical), quality and regulatory control points as well as inspections points
- Work is carried out in the presence of moving vehicles and equipment
- Work may involve exposure to chemicals, dangerous or hazardous substances
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide
Prepare the extrusion process for operation	<p>Materials are confirmed and available to meet production specifications</p> <p>Services are confirmed as available and ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The extrusion process is set to meet production specifications</p>	<p>This part of the evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. The Assessment guide and context following, outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p>Demonstrated ability to:</p> <ul style="list-style-type: none"> – access workplace information to identify

<p>Operate and monitor the extrusion process</p>	<p>The extrusion process is started up according to company procedures</p>	<p>production requirements</p> <ul style="list-style-type: none">– confirm supply of necessary materials and services– select fit and use personal protective clothing and or equipment– liaise with other work areas. This may include storage and packaging areas– confirm equipment status and condition of equipment
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Element	Performance criteria	Evidence guide
Operate and monitor the extrusion process	<p>Gravy is manufactured and stored according to specifications</p> <p>Dries are manufactured to product specifications, treated and combined with additives prior to extrusion</p> <p>Product is extruded, cut and combined to specifications</p> <p>Control points are monitored to confirm product meets specification</p> <p>Wet extruded product meets specification</p> <p>Equipment is monitored to confirm operating condition</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> <p>Waste generated by the process is monitored and cleared as required</p>	<ul style="list-style-type: none"> - set-up and start up equipment . This typically includes selection of appropriate dies and cutters for product to be manufactured and the setting of cutter bearings, and dies to specification - manufacture product to specification. This includes: <ul style="list-style-type: none"> ➤ gravy ➤ dries ➤ extruded and ➤ combined product - monitor gravy process to identify out -of-specification results or non-compliance. This may include monitoring for: <ul style="list-style-type: none"> ➤ moisture ➤ colour ➤ consistency/texture - monitor dries process to identify out -of-specification results or non-compliance. This may include monitoring for: <ul style="list-style-type: none"> ➤ moisture ➤ colour ➤ smell - monitor extrusion process to identify out -of-specification results on non-compliance. This may include monitoring for <ul style="list-style-type: none"> ➤ size/shape ➤ moisture content ➤ colour ➤ through put - monitor combining process to identify out -of-specification results on non-compliance. This may include monitoring for <ul style="list-style-type: none"> ➤ colour ➤ product ratios ➤ presence of fines/residues - take corrective action in response to out-of-specification results or non-compliance - report and/or record corrective action as required - monitor supply and flow of materials to and from the process. - sort, collect, treat, recycle or dispose of waste - conduct product/batch/line changeovers - shut down equipment in response to an emergency situation - shut down equipment in response to routine shut down requirements - prepare equipment for cleaning - maintain workplace records - maintain work area to meet housekeeping standards

Element	Performance criteria	Evidence guide
Shutdown the process and clean equipment	<p>The process is shut-down according to company procedures</p> <p>Equipment is prepared for cleaning</p> <p>Waste generated by the process is collected, treated and disposed or recycled according to company procedures</p>	<p>May include the ability to:</p> <ul style="list-style-type: none"> - clean and sanitise equipment - take samples and conduct tests - carry out routine maintenance - identify, rectify and/or report - environmental non-compliance <p>Underpinning knowledge:</p> <ul style="list-style-type: none"> - purpose and basic principles of manufacturing extruded wet products. - purpose of each stage in the process and links to related stages - effect of quality of materials on process outcomes.
Record information	Workplace information and test results are recorded in the appropriate format	<ul style="list-style-type: none"> - effect of each stage on the quality of end product - quality parameters and characteristics of: <ul style="list-style-type: none"> ➢ gravy ➢ dries ➢ extruded product ➢ combined product - process specifications, procedures and operating parameters for manufacturing extruded wet product. - production requirements and schedules - relationship between through put, die size, equipment settings and quality of end product - equipment and instrumentation components, purpose and operation - basic operating principles of process control system where relevant - services used - significance and methods of monitoring control points within the process - common causes of variation and corrective action required - OHS hazards and controls - lock out and tag out procedures - procedures for diagnosing, rectifying and reporting faults - environmental aspects, impacts and controls - shut down and cleaning requirements associated with changeovers and types of shut downs - waste handling requirements and procedures - recording requirements and procedures <p>May include knowledge of:</p> <ul style="list-style-type: none"> - cleaning and sanitation procedures - sampling and testing procedures - routine maintenance procedures

Evidence guide (continued)

Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to prepare and operate the blending, extrusion and combining process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- storage systems, procedures and processes
- production schedule and recipes
- specifications, control points and processing parameters
- extrusion, blending and combining equipment
- sampling and testing schedules and procedures, as required
- services
- material safety data sheets as required
- routine preventative maintenance schedule as required
- cleaning schedule as required
- documentation and record keeping system

Relationship to other units

Pre-requisites or equivalent

- Communicate in the workplace
- Apply basic mathematical concepts
- Apply safe work procedures
- Apply basic quality assurance practices
- Apply basic food safety practices

Co-requisites:

- Collect, present and apply workplace information
- Implement occupational health and safety principles and procedures
- Implement quality system
- Implement food safety plan

Related units:

- Conduct routine tests
- Apply sampling techniques
- Clean and sanitise equipment
- Conduct routine preventative maintenance

Where related units are required to operate the blending, extrusion, and combining processes in the workplace, units should be co-assessed.

Relationship to learning resources

Main learning resources:

- Manufacture extruded product wet

Related learning resources:

- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B
- Food Safety B (Hygiene and Sanitation B and C)
- Routine Testing
- Cleaning and Sanitation

FDF PFOS3 A

Operate a system (Petfood)

Descriptor

This is a specialist unit that has been customised for the petfood sector. It covers the preparation and operation of a production or packaging system.

A system typically describes the operation of an entire process which may be comprised of a number of sub-systems. System operation requires higher level planning and problem solving skills than are necessary when operating an individual sub-system or piece of equipment. It can also involve facilitating the work of others.

Range of variables

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial awards and agreements
- System operation typically involves planning, co-ordination and troubleshooting within their level of authority
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical), quality and regulatory control points as well as inspection points
- Information systems may be print or screen based
- Co-ordination, planning and troubleshooting is undertaken with assistance from others
- Workplace systems are in place to support production and packaging processes. These include quality, food safety, occupational health and safety and environmental management

Element	Performance criteria	Evidence guide – Part A
Prepare the system for operation	<p>Supply of materials is confirmed to meet production/packaging requirements</p> <p>Work area is prepared for operation</p> <p>Services are confirmed as available and ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The system is set to meet specifications</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B of the Evidence guide outlines how this guide is to be applied. Both parts should be read in conjunction with the Range of variables.</p> <p>Demonstrated ability to:</p> <ul style="list-style-type: none"> – liaise with relevant work areas to confirm or secure necessary materials, services, equipment and labour to meet production requirements – confirm that all equipment within the system meets hygiene and sanitation standards, all safety guards are in place and equipment is ready for operation – confirm that materials and/pr packaging consumables have been cleared for use – monitor implementation of set-up and start up procedures. This may involve monitoring the use of checksheets by others – monitor observance of work procedures and systems – monitor materials flow and work-in-progress through the system(<i>cont.</i>)

Element	Performance criteria	Evidence guide – Part A
Operate and monitor the system	<p>The system is started up according to company procedures</p> <p>Control points are monitored to confirm performance is maintained within specification</p> <p>System outputs meet specification</p> <p>Equipment is monitored to confirm operating condition</p> <p>System outputs meet specification</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> – confirm that the system operates within specified parameters and control points are monitored – determine responses to out-of-specification results or non-conformance within level of responsibility – co-ordinate batch/product changeovers – communicate information effectively – plan maintenance and cleaning procedures to minimise disruption – monitor operating efficiencies of the system and investigate, resolve and/or report problems – review and maintain procedures to support system improvements <p>Underpinning knowledge:</p> <ul style="list-style-type: none"> – purpose and principles of the system – equipment purpose and operation including an understanding of process control systems where used
Shut down the system	<p>The system is shut down according to company procedures</p> <p>Equipment is cleaned and maintained to meet cleaning schedule and procedural requirements</p> <p>Waste generated by both the process and cleaning procedures is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> – technical knowledge of product/packaging characteristics and processing/packaging requirements – codes and legislation relating to product and packaging requirements – equipment calibration schedule and responsibilities – type and purpose of sampling and testing conducted – related work areas and departments – relevant procedures, specifications and operating parameters – relevant systems and legislative responsibilities in areas such as human resources, food safety, quality, occupational health and safety and environmental management
Contribute to continuous improvement of the system	<p>Quality of process outputs is assessed against specifications</p> <p>Opportunities for improvement are identified and investigated</p> <p>Proposals for improvements are developed and implemented within company planning arrangements and according to company procedures</p>	<ul style="list-style-type: none"> – industrial awards and agreements relating to system operation – hazards, risks, controls and methods for monitoring processes within the system – maintenance and cleaning requirements of equipment in system – process improvement procedures and related consultative arrangements – troubleshooting procedures and problem solving techniques – recording and reporting requirements

Element	Performance criteria	Evidence guide – Part A
Record information	Workplace information is recorded in the appropriate format	

Evidence guide – Part B

Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.

Assessment context

Assessment of this unit must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to prepare and operate a production system given:

- work procedures including advice on safe work practices, food safety and environmental requirements for processes within the system
- company policies and workplace systems including human resources, OHS, quality, food safety and environmental management
- production/packaging schedule
- specifications, control points and processing parameters
- production/packaging system equipment
- personnel operating the system
- services
- related work areas and communication system
- relevant OHS clothing and equipment
- cleaning, calibration and maintenance schedules as required
- sampling and testing schedules as required
- troubleshooting advice where available
- documentation and record keeping system
- planning, resources management and training arrangements

Relationship to other units

Pre-requisites or equivalent:

- Collect, present and apply workplace information
- Implement occupational health and safety principles and procedures
- Implement the quality system
- Implement the food safety plan

Co-requisites:

- Analyse and convey workplace information
- Monitor the implementation of occupational health and safety
- Monitor the implementation of the quality system
- Monitor the implement the food safety plan

Related units:

- Facilitate Teams

Where related units form an integral part of system operation in the workplace, these units should be co-assessed.

Relationship to learning resources

Main learning resource:

- General Foods System Preparation and Operation
- Packaging C

Related learning resources:

- Industrial Communication C
- Quality Assurance C
- Occupational Health and Safety C
- Food Safety C (Hygiene and Sanitation D)
- Work Team Communication