HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 1 of 19

1. Hazard Management Details – General	
This form relates to OHS Procedure – *Hazard Identification, Risk Assessment and Control (HIRAC)*	
School / Work Location:	**Ballarat Tech School (Federation TAFE)**
Name of Person(s):	Liam Mudge,
Date Conducted:	04/03/2025
Last Reviewed:	04/04/2024
Next Review Due:	February 2026

HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 2 of 19

Description of Use:	Summary of Key Risks:
The Ballarat Tech School (BTS) delivers a range of STEM curriculum projects, some of these activities may be hazardous to user's health if safety procedures and lab etiquette are not followed. This document assesses the risk involved with: • Food handling • Maintaining a Safe Kitchen • Food Experimentation	**(Refer to appropriate subsections)**

HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 3 of 19

Risk Assessment Matrix

Assessing OHS Risks

Risk assessments in matters of Occupational Health and Safety* are based on 2 key factors:

- The severity of any injury/illness resulting from the hazard(s), and
- The likelihood that the injury/illness will actually occur.

**Assessment of risk level based on likely severity and probability of harm*

		LIKELIHOOD			
		Very Unlikely Could happen, but probably never will	**Unlikely** Could happen, but very rarely	**Likely** Could happen sometime	**Very likely** Could happen any time
SEVERITY	Death or permanent disability	**MEDIUM**	**HIGH**	**EXTREME**	**EXTREME**
	Long-term illness or serious injury	**LOW**	**MEDIUM**	**HIGH**	**EXTREME**
	Medical attention and short-term incapacity	**VERY LOW**	**LOW**	**MEDIUM**	**HIGH**
	First aid needed	**VERY LOW**	**VERY LOW**	**LOW**	**MEDIUM**

HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 4 of 19

2. Documentation		
Relevant Legislation/Standards	**Y / N**	**Comments**
Key reference material:		• AS/NZS 3760:2022 In service safety inspection and testing of electrical equipment. • Food experimentation. Queensland Government. Department of Education and Training. • Food handling. Queensland Government. Department of Education and Training. • Cooking and maintain a safe kitchen. Queensland Government. Department of Education and Training. • Risk Analysis in Food Regulation. Food Standard Australia New Zealand, 2013

HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 5 of 19

3. Hazards				
Hazards Inspected	**Initial Risk**	**Description of Risk**	**Control Measures**	**Residual Risk**
Food handling	Medium	• Illness resulting from contact or contamination by harmful microbial agents, spoiled food, improper food hygiene. • Spoiled foods may result in illness.	• Ensure all food items used comply with Food Standards Australia New Zealand and are not subject to any current food recalls. • Adhere to established hand hygiene practices outlined in the Infection Control Guideline • Where necessary and/or possible, use clean equipment to pick up food rather than hands (e.g. tongs, serving spoons etc.) • Ensure all food stuffs are correctly dated and labelled to avoid using spoiled goods. • Advise students when product not fit for consumption.	Low

HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 6 of 19

Hazards Inspected	Initial Risk	Description of Risk	Control Measures	Residual Risk
Raw Foods	Medium	• Raw foods, especially meat can cause illness and may cross contaminate other food stuffs.	• Keep uncooked food separate from cooked food and food to be eaten raw. • Ensure the same equipment and utensils are not used for raw meat, poultry and seafood as for cooked foods and food to be eaten raw (e.g. salads). • Cover raw meats, poultry and seafood and store towards the bottom of the refrigerator or in the meat compartment. • Ensure raw food stored in a way so as to avoid leaking/spilling onto other foods/surfaces,	Low

HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 7 of 19

Hazards Inspected	Initial Risk	Description of Risk	Control Measures	Residual Risk
Maintaining safe temperature	Medium	• Foods not kept at safe temperatures may spoil and produce toxins/bacteria which result in illness.	• Store food that needs refrigeration or freezing in containers with lids or covers such as plastic wrap and ensure they are labelled and dated clearly. • Check the temperature of the refrigerator regularly. • Keep hot food hot and cold food cold i.e. out of the danger zone of between 5°C and 60°C. For example: - keep cooked food at 60°C or above until served - refrigerate or freeze food that is prepared in advance - comply with Food Standards Australia New Zealand when reheating food - thaw frozen food in the refrigerator or microwave	Low

HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 8 of 19

Hazards Inspected	Initial Risk	Description of Risk	Control Measures	Residual Risk
Cleaning	Medium	• Contamination from spoiled food, cleaning agents/nonedible chemicals, raw or other foods may cause illness. • Cross contamination of allergens may pose serious risk of illness.	• Ensure the kitchen, equipment and clothing are kept clean. • Ensure cleaning agents are used at the minimum strength necessary to maintain hygienic surfaces. • Treat all clothing, equipment and surfaces contaminated by blood or saliva as infectious. • Ensure procedures are in place to immediately manage the removal of all spilt substances (e.g. breakages bin, spill kit for large spills etc.) • Wash fruit and vegetables that are to be eaten raw, under running water. • Ensure best practice of keeping workspace clean to limit the spread of mess etc.	Low

HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 9 of 19

Hazards Inspected	Initial Risk	Description of Risk	Control Measures	Residual Risk
Contamination	Medium	• Illness resulting from contact or contamination by harmful microbial agents, spoiled food, improper food hygiene etc.	• Do not allow people who are sick to prepare food, especially if they have vomiting or diarrhoea. • Ensure unprocessed produce containing high levels of micro-organisms, such as unwashed potatoes and dirty eggs, do not contaminate other food, especially cooked and ready-to-eat food. • Ensure the environment is controlled for pests e.g. use fly screens and food covers and do not leave food or dirty dishes on the bench. • Ensure the environment is controlled for pests e.g. use fly screens and food covers and do not leave food or dirty dishes on the bench.	Low

HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 10 of 19

Hazards Inspected	Initial Risk	Description of Risk	Control Measures	Residual Risk
Kitchen Equipment	Medium	• Damaged equipment may result in failure and exposure to hazard. • Improper use of equipment may cause injury, or contamination. • Improper stored equipment may become unsanitary/contaminated.	• Ensure equipment is clean and sanitised and does not have cracks and damage. • Ensure knives are sufficiently sharp to allow for easy cutting and stored in a way that allows a safe selection. • Use appropriate equipment to handle food safely. • Ensure equipment is stored cleanly and safely when not in use.	Low
Waste Disposal/Spill Clean Up	Medium	• Improper disposal of waste may result in contamination hazard. • Improper disposal of waste may attract vermin and other pests resulting in contamination hazards.	• Ensure all waste materials are disposed of in appropriate receptacles.	Low

HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 11 of 19

Hazards Inspected	Initial Risk	Description of Risk	Control Measures	Residual Risk
Taste Testing	Medium	• Taste testing of food and drink may expose participants to known or unknown allergenic agents. • The taste of produced food and drink may induce adverse reactions from participants	• Any participant with known allergies and risk of anaphylaxis should avoid allergenic agents and carry/maintain their own epinephrine pen and safety measures. • Provision of adequate, clean & uncontaminated water source to clean the palate and remove taste if required.	Low

HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 12 of 19

Hazards Inspected	Initial Risk	Description of Risk	Control Measures	Residual Risk
ENTANGLEMENT Can anyone's hair, clothing, gloves, cleaning brushes, tools, rags or other materials become entangled with moving parts of the tools or materials?	Medium	• Long hair, loose clothing, rags, cleaning brushes and jewellery could become entangled in the moving parts of the equipment or, could knock over equipment/vessels. • Standing mixer may allow user to become entangled as the mixing mechanism is exposed	• Instruct and identify exposed mechanisms to avoid. • Ensure hair, loose clothing, rags and jewellery is kept clear of moving parts when in use. Aprons/PPE can be used to restrict loose clothing. Hair ties/hair nets can be used to secure long hair. • Ensure inappropriate jewellery and accessories (e.g. bracelets) are not worn when operating equipment.	Low
SHEARING Can anyone's body parts be sheared between two parts of tool, or between a part of the tool and a work piece or structure?	Medium	• Operating equipment such as blenders, food processors, mixing devices and handheld cutting utensils may result in shearing or other damage to users' fingers/hands if used inappropriately	• Ensure electrical devices are switched off and unplugged from power prior to removing contents/cleaning. • Proper induction & supervision of cutting techniques. • Use of proper cutting techniques. • Instruction & supervision	Low

HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 13 of 19

Hazards Inspected	Initial Risk	Description of Risk	Control Measures	Residual Risk
IMPACT & CUTTING INJURIES Can anyone be crushed/cut/struck etc. due to: • Material falling off the workspace? • Uncontrolled/unexpected movement of tools /workspace? • The tools tipping or rolling over? • Parts of the tool disintegrating or collapsing? • Contact with moving parts during testing, inspection, operation, maintenance, cleaning or repair? • Inappropriate parts and accessories being used?	Medium	• Equipment may inadvertently make contact users. • Inattentive use of implements/utensils may result in sharp objects falling off work bench and/or contacting users. • Unexpected/sudden movement of cutting utensils may result in inadvertent contact with users. • Improper cutting action may result in cutting utensils making contact with users. • Damaged/degraded equipment may result in unexpected contact with user.	• Users instructed in proper techniques prior to activity. • Ensure users are supervised while operating cutting/mixing/crushing equipment. • Equipment returned to designated workspace when not in use. • De-energise any equipment prior to cleaning/servicing. • Do not use damaged equipment. • Use equipment as directed. • Ensure worksurface and equipment stable and secured before use.	Low

HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 14 of 19

Hazards Inspected	Initial Risk	Description of Risk	Control Measures	Residual Risk
ELECTRICITY Can anyone be injured or burnt due to: • Access to electricity? • Damaged or poorly maintained electrical leads, cables or switches? • Water near electrical equipment?	Medium	• Live power points are located around the Food & Fibre Lab which allow access to electricity. • Damaged or frayed electrical cables pose an electrical hazard. • Electrical cables could become damaged by contact with hot elements or sharp utensils. • Liquids coming into contact with electrical supplies may result in electrical hazard. •	• Induction and supervision of users with access to electrical outlets • Ensure equipment is regularly serviced, tested and tagged (if not hardwired) and appropriate isolation procedures (e.g. lock out tags) are in place. • Tag out and do not use damaged electrical equipment. • Limit amount of liquid around outlets to avoid spills. • Where possible separate use of electrical equipment from liquid sources. • Turn off power and thoroughly clean/dry any spills which may occur.	Low

HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 15 of 19

Hazards Inspected	Initial Risk	Description of Risk	Control Measures	Residual Risk
ERGONOMICS Can anyone be injured due to: • Poorly designed workstation? • Repetitive body movement? • Inadequate or poorly placed lighting?	Medium Medium	• Design of workstation does not allow for adequate space to perform tasks. • Repetitive Strain Injuries • Poor lighting may result in inadvertent exposure to hazardous suffuses, cutting edges and hot/cold surfaces	• Relocate work to ensure adequate space for tasks as required. • Users should avoid prolonged application of force, reassess appropriateness of tool/equipment. • Ensure adequate lighting to perform task. Additional lighting may be required if ambient/room lighting is insufficient.	Low Low

HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 16 of 19

Hazards Inspected	Initial Risk	Description of Risk	Control Measures	Residual Risk
SLIPS / TRIPS / FALLS Can anyone using the tool, or in the vicinity of the plant, slip, trip or fall due to: • Uneven, slippery or steep work surfaces? • Poor housekeeping, e.g. spillage in the vicinity? • Obstacles being placed in the vicinity of the tool?	Medium	• Floors may become slippery due to food items/liquid spills. • Poor housekeeping practices allowing the build-up of waste materials or failure to immediately clean up spills could result in a slip hazard. • Inappropriate placement of objects (e.g. spare materials, bags etc.) in the immediate vicinity of the plant equipment may result in trip hazard.	• Spills etc to be cleaned as quickly as practicable with users notified of potential slip hazards. • Non-slip matting used in wet areas. • Ensure appropriate cleaning and housekeeping practices are maintained to minimise the risk of a slip, trip or fall. • Floors and walkways kept clear of all bags etc.	Low
FIRE & EXPLOSION Can anyone be injured by fire?	Medium	• Using bench top oven burner to prepare food may result in fire if items left unattended	• Instruct and supervise users how to work safely in relation to high temperatures (including appropriate emergency responses). • Ensure appropriate fire suppression measures are available in the activity area.	Low

HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 17 of 19

Hazards Inspected	Initial Risk	Description of Risk	Control Measures	Residual Risk
TEMPERATURE / MOISTURE • Can anyone come into contact with objects at high or low temperatures?	Medium	• Cooking and freezing appliances used may result in injury such as burns etc. • Steam resulting from direct boiling or cooking in either the microwave or on a burner may result in burns. • Surfaces/objects may be hot/cold for some time after being removed from the heat/cold source. • Cooking and freezing appliances used may result in contact with either hot or cold surfaces • Steam resulting from cooking in either the microwave, burner or other heating method may result in severe burns. • Surfaces/objects may be hot/cold for some time after being removed from the heat/cold source.	• Use of appropriate PPE as is practicable. (Lab coats, aprons, gloves, masks, goggles.) • If excessive steam or smoke expected from the activity use stove top range hood. • Allow adequate time and physical isolation for surfaces to reach safe temperature.	Low

HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 18 of 19

Hazards Inspected	Initial Risk	Description of Risk	Control Measures	Residual Risk
• Can anyone be injured or suffer ill-health due to exposure to moisture?	Medium	• Steam resulting from direct boiling or cooking in either the microwave or on a burner may result in burns. • Users may be exposed to steam produced by industrial washing machine.	• Induction and supervision relating to working with/in steam producing environment. • Avoid direct contact with steam	Low
OTHER Can anyone be injured or suffer ill-health from exposure to: • Fumes/Dusts?	Medium	• Cooking and other food experimentation processes may result in smoke or fumes causing coughing etc.	• Ensure appropriate control measures are implemented e.g. local exhaust system, face masks, good housekeeping practices, appropriate ventilation etc.	Low

HIRAC Report

Title: Food Science	Authorized By:
	Page Number: 19 of 19

4. Risk Assessment Signoff		
Authorised By: Damon Minotti	Signature: 	Date: 24/03/2025