COURSE OUTLINE
COURSE FOOD SCIENCE AND TECHNOLOGY – GENERAL YEAR 12: 2022
UNIT 3 AND UNIT 4

This course will run the two units, 3 and 4, concurrently. The student Semester 1 grade will therefore be an estimate. **Red = Unit 3 content / Blue = Unit 4 content / EST CONTENT**

Term	Week	Topic and key teaching points	Syllabus content	Assessment
1	1–4	**Nutrition** **Nature of Food** Nutrition Properties of food **Processing food** Food products and processing systems	**Nutrition** • food sources and role of micronutrients for health ▪ fat-soluble vitamins: A and D ▪ water-soluble vitamins: B1 (thiamine), B2 (riboflavin), B3 (niacin) and C ▪ minerals: calcium, iron and sodium • effects of under-consumption of nutrients on health ▪ anaemia ▪ osteoporosis ▪ malnutrition ▪ constipation **Properties of food** • functional properties that determine the performance of food ▪ coagulation ▪ dextrinization ▪ physical aeration **Food products and processing systems** • devise food products ▪ devise food products ▪ apply preparation and processing techniques • investigate wet processing techniques and dry processing techniques ▪ suitable food commodities ▪ effect on nutrition ▪ heat transfer ▪ sensory properties ▪ cost of ingredients and energy	**Task 1: Test- Nutrition for Health** **Task 2: Functional Properties**

COURSE OUTLINE
COURSE FOOD SCIENCE AND TECHNOLOGY – GENERAL YEAR 12: 2022
UNIT 3 AND UNIT 4

Term	Week	Topic and key teaching points	Syllabus content	Assessment
	5	**Nutrition** **Nature of Food** Nutrition **Processing food** Food products and processing systems **Nature of Food** Properties of food	**Nutrition** • effects of under-consumption of nutrients on health ▪ anaemia ▪ osteoporosis ▪ malnutrition ▪ constipation **Food products and processing systems** • devise food products ▪ apply preparation and processing techniques • investigate wet processing techniques and dry processing techniques ▪ suitable food commodities ▪ effect on nutrition ▪ heat transfer ▪ sensory properties • cost of ingredients and energy **Properties of food** • functional properties that determine the performance of food ▪ oxidation ▪ gelation	**Task 1: Test- Nutrition for Health** **Task 2: Functional Properties**
1	6-7	**Devise Food Products** **Nature of Food** Nutrition **Processing Food** Food Products and Processing Systems	**Nutrition** ▪ effects of over-consumption of nutrients on health ▪ obesity ▪ cardiovascular disease ▪ Type 2 diabetes **Food products and processing systems** ▪ devise food products ▪ interpret and adapt recipes ▪ devise food orders	**Task 1: Test- Nutrition for Health (Term 1 Week 6)** **Task 3: Meals for Health**

COURSE OUTLINE
COURSE FOOD SCIENCE AND TECHNOLOGY – GENERAL YEAR 12: 2022
UNIT 3 AND UNIT 4

Term	Week	Topic and key teaching points	Syllabus content	Assessment
			▪ devise production plans ▪ apply preparation and processing techniques ▪ cost recipes	
		Food as a commodity **Nature of Food** Properties of food	**Properties of food** ▪ functional properties that determine the performance of food ▪ caramelisation ▪ crystallisation	**Task 2: Functional Properties**
1	**8-10**	**Food as a commodity** **Nature of Food** Properties of food **Processing food** Food Products and processing systems	**Properties of food** • functional properties that determine the performance of food ▪ Aeration chemical **Food products and processing systems** • devise food products ▪ devise food products ▪ apply preparation and processing techniques • investigate wet processing techniques and dry processing techniques ▪ suitable food commodities ▪ effect on nutrition ▪ heat transfer ▪ sensory properties ▪ cost of ingredients and energy	**Task 3 Meals for Health (Term 1 Week 8)** **Task 5: Heat and Eat Meals**

COURSE OUTLINE
COURSE FOOD SCIENCE AND TECHNOLOGY – GENERAL YEAR 12: 2022
UNIT 3 AND UNIT 4

Term	Week	Topic and key teaching points	Syllabus content	Assessment
1	8-10 cont.	**Food in society** **Food Issues** Laws and regulatory codes **Processing food** Food products and processing systems	**Laws and regulatory codes** • role of *Food Standards Australia New Zealand* (FSANZ) • *Australia New Zealand Food Standards Code* for food labelling requirements ▪ nutrition information panel ▪ percentage labelling ▪ name or description of the food ▪ food recall information ▪ information for allergy sufferers ▪ date marking ▪ ingredients list ▪ country of origin ▪ barcode ▪ weights and measures ▪ use and storage information ▪ mandatory warnings and information ▪ genetically modified content ▪ legibility • categories of food exempt from food labelling laws • objectives of *Food Act 2008* (WA) • purpose of the *Occupational Safety and Health Act 1984* **Food products and processing systems** • devise food products ▪ devise food products ▪ apply preparation and processing techniques • investigate wet processing techniques and dry processing techniques ▪ suitable food commodities ▪ effect on nutrition ▪ heat transfer	**Task 5: Heat and Eat Meals (Term 1 Week10)**

COURSE OUTLINE
COURSE FOOD SCIENCE AND TECHNOLOGY – GENERAL YEAR 12: 2022
UNIT 3 AND UNIT 4

Term	Week	Topic and key teaching points	Syllabus content	Assessment
1	8-10 cont.		▪ sensory properties ▪ cost of ingredients and energy • the technology process to produce a food product that demonstrates a wet processing technique and a dry processing technique based on a product proposal ▪ investigate ▪ devise ▪ produce ▪ evaluate • evaluate the food product ▪ product's compliance with the proposal ▪ product's sensory properties ▪ selection of processing techniques ▪ selection of equipment and resources ▪ time requirements	
2	1-2	**Nature of Food** Properties of food **Processing food** Food Products and processing systems	**EST Revision** **Properties of food** • functional properties that determine the performance of food ▪ crystallisation ▪ caramelisation **Food products and processing systems** • devise food products ▪ apply preparation and processing techniques • investigate wet processing techniques and dry processing techniques ▪ suitable food commodities ▪ effect on nutrition ▪ heat transfer ▪ sensory properties ▪ cost of ingredients and energy	**Task 4: Externally Set Task**

COURSE OUTLINE
COURSE FOOD SCIENCE AND TECHNOLOGY – GENERAL YEAR 12: 2022
UNIT 3 AND UNIT 4

Term	Week	Topic and key teaching points	Syllabus content	Assessment
2	1-2 cont.		**Food products and processing systems** • devise food products ▪ devise food products ▪ apply preparation and processing techniques • investigate wet processing techniques and dry processing techniques ▪ suitable food commodities ▪ effect on nutrition ▪ heat transfer ▪ sensory properties ▪ cost of ingredients and energy • the technology process to produce a food product that demonstrates a wet processing technique and a dry processing technique based on a product proposal ▪ investigate ▪ devise ▪ produce ▪ evaluate • evaluate the food product ▪ product's compliance with the proposal ▪ product's sensory properties ▪ selection of processing techniques ▪ selection of equipment and resources	

COURSE OUTLINE
COURSE FOOD SCIENCE AND TECHNOLOGY – GENERAL YEAR 12: 2022
UNIT 3 AND UNIT 4

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2	3-4	**Properties of Food** **Food as a commodity** **Nature of Food** Properties of Food **Processing systems** Food products and processing systems	**Properties of food** • functional properties that determine the performance of food ▪ leavening ▪ chemical aeration ▪ Aeration-steam **Food products and processing systems** • devise food products ▪ apply preparation and processing techniques • investigate wet processing techniques and dry processing techniques ▪ suitable food commodities ▪ effect on nutrition ▪ heat transfer ▪ sensory properties • cost of ingredients and energy	**Task 2: Functional Properties** **Task 4: Externally Set Task (Term 2 Week 3-5)**
2	5-6	**Properties of Food** **Food as a commodity** **Nature of Food** Properties of Food **Processing systems** Food products and processing systems	**Properties of food** • functional properties that determine the performance of food ▪ gelatinisation ▪ emulsification **Food products and processing systems** • devise food products ▪ apply preparation and processing techniques • investigate wet processing techniques and dry processing techniques ▪ suitable food commodities ▪ effect on nutrition ▪ heat transfer ▪ sensory properties • cost of ingredients and energy	**Task 2: Functional Properties** **Task 4: Externally Set Task (Term 2 Week 3-5)**

COURSE OUTLINE
COURSE FOOD SCIENCE AND TECHNOLOGY – GENERAL YEAR 12: 2022
UNIT 3 AND UNIT 4

Term	Week	Topic and key teaching points	Syllabus content	Assessment
2	7-9	**Properties of Food** **Food as a commodity** **Nature of Food** Properties of Food **Processing systems** Food products and processing systems	**Properties of food** • functional properties that determine the performance of food ▪ denaturation ▪ rancidity **Food products and processing systems** • devise food products ▪ apply preparation and processing techniques • investigate wet processing techniques and dry processing techniques ▪ suitable food commodities ▪ effect on nutrition ▪ heat transfer ▪ sensory properties • cost of ingredients and energy	**Task 2: Functional Properties**
2/3	Term 2 Week 10 Term 3 Week 1-2	**Dietary Planning** **Properties of Food** **Nature of Food** Properties of Food **Food Processing** Food products and processing systems **Nature of food** Nutrition Food as a commodity	**Food products and processing systems** • devise food products ▪ apply preparation and processing techniques ▪ interpret and adapt recipes • investigate wet processing techniques and dry processing techniques ▪ suitable food commodities ▪ effect on nutrition ▪ heat transfer ▪ sensory properties • cost of ingredients and energy **Nutrition** ▪ dietary planning ▪ *Healthy Eating Pyramid (Nutrition Australia May 2015)* ▪ *Australian Guide to Healthy Eating*	**Task 2: Functional Properties (Term 2 Week 10)** **Task 6: Dietary planning (Term 3 Week 2)**

COURSE OUTLINE
COURSE FOOD SCIENCE AND TECHNOLOGY – GENERAL YEAR 12: 2022
UNIT 3 AND UNIT 4

Term	Week	Topic and key teaching points	Syllabus content	Assessment
			▪ *Australian Dietary Guidelines* ▪ the nutritional needs of demographic groups, such as adolescents and adults ▪ modification and fortification of foods by altering nutrient content ▪ influences on the nutritional wellbeing of individuals ▪ lifestyle ▪ cultural traditions • the concept of value-adding to food ▪ changes to nutritional content ▪ additional processing of food ▪ presentation and service ▪ packaging	
3	3	**Processing systems and food preservation** **Processing food** Food products and processing systems **Nature of food** Food products and processing systems **Nature of food** Properties of food	**Food products and processing systems** • devise food products ▪ apply preparation and processing techniques • investigate wet processing techniques and dry processing techniques ▪ suitable food commodities ▪ effect on nutrition ▪ heat transfer ▪ sensory properties ▪ cost of ingredients and energy **Properties of food** ▪ causes of food spoilage and contamination ▪ environmental factors, such as oxygen, light, heat, water, infestation ▪ enzymatic activity on food ▪ microbial contamination of food, such as mould, yeast, bacteria	**Task 8: Food preservation**

COURSE OUTLINE
COURSE FOOD SCIENCE AND TECHNOLOGY – GENERAL YEAR 12: 2022
UNIT 3 AND UNIT 4

Term	Week	Topic and key teaching points	Syllabus content	Assessment
3	3 cont.	**Processing food** Food products and processing systems	**Properties of food** • reasons for preserving food ▪ extend shelf life ▪ preserve nutritional value ▪ out of season availability ▪ palatability ▪ convenience ▪ economics ▪ reduce waste **Properties of food** • principles of food preservation ▪ control of temperature, such as pasteurisation, ultra-high temperature treatment, freezing, and canning or bottling ▪ anaerobic breakdown of organic substances or nutrients such as fermentation ▪ addition of chemicals, such as salt, sugar, acid, and artificial preservative ▪ removal of moisture through dehydration and evaporation ▪ removal of oxygen through vacuum packing **Food products and processing systems** ▪ devise food products ▪ apply preparation and processing techniques	

COURSE OUTLINE
COURSE FOOD SCIENCE AND TECHNOLOGY – GENERAL YEAR 12: 2022
UNIT 3 AND UNIT 4

Term	Week	Topic and key teaching points	Syllabus content	Assessment
3	4	**Processing systems and food preservation** **Processing food** Food products and processing systems	**Food products and processing systems** • devise food products ▪ apply preparation and processing techniques • investigate wet processing techniques and dry processing techniques ▪ suitable food commodities ▪ effect on nutrition ▪ heat transfer ▪ sensory properties ▪ cost of ingredients and energy	**Task 8: Food preservation**
		Food processing techniques **Processing food** Food products and processing systems **Food processing** Food products and processing systems	**Food products and processing systems** • food processing techniques are used to control the performance of food ▪ temperature – heat, cold ▪ exposure to air ▪ pH level ▪ addition of chemicals – salt, sugar ▪ removal of moisture ▪ manipulation **Food products and processing systems** • the technology process to produce a preserved food product based on a product proposal ▪ investigate ▪ devise ▪ produce ▪ evaluate • devise food products ▪ interpret and adapt recipes ▪ devise food orders	

COURSE OUTLINE
COURSE FOOD SCIENCE AND TECHNOLOGY – GENERAL YEAR 12: 2022
UNIT 3 AND UNIT 4

Term	Week	Topic and key teaching points	Syllabus content	Assessment
			▪ develop, produce and evaluate prototypes ▪ devise production plans ▪ apply preparation and processing techniques ▪ cost recipes • evaluate the preserved food product ▪ product's compliance with the proposal ▪ product's use in another food product ▪ product's sensory properties ▪ selection of processing techniques ▪ selection of equipment and resources ▪ time requirements	
3	5-6	**Food in society** Food issues **Food processing** Food products and processing systems **Food in Society** **Food in Society** Food Issues	**Food issues** • factors that influence food choices • location • income • supply and demand • environmental impact • advertising and marketing • sponsorship, tokens and free gifts, and supersizing techniques used to market food products **Food products and processing systems** • devise food products ▪ apply preparation and processing techniques **Food issues** • societal influences on food choices ▪ lifestyle ▪ culture ▪ religion	**Task 8: Food preservation (Term 3 Week5)**

COURSE OUTLINE
COURSE FOOD SCIENCE AND TECHNOLOGY – GENERAL YEAR 12: 2022
UNIT 3 AND UNIT 4

Term	Week	Topic and key teaching points	Syllabus content	Assessment
3	5-6 cont.	**Processing Food** Food products and processing systems	▪ health promotion campaigns ▪ advertising • economic influences on food choices ▪ competition in the marketplace ▪ product availability ▪ consumer resources **Food as a commodity** ▪ the economic cost of raw and processed food products ▪ the development and use of varieties of food commodities, such as apples and potatoes, to: ▪ alter sensory and physical properties ▪ alter nutritional content ▪ improve yield **Food products and processing systems** • devise food products ▪ apply preparation and processing techniques • investigate wet processing techniques and dry processing techniques ▪ suitable food commodities ▪ effect on nutrition ▪ heat transfer ▪ sensory properties ▪ cost of ingredients and energy	

COURSE OUTLINE
COURSE FOOD SCIENCE AND TECHNOLOGY – GENERAL YEAR 12: 2022
UNIT 3 AND UNIT 4

Term	Week	Topic and key teaching points	Syllabus content	Assessment
3	7-8	**Food in society** Laws and regulatory codes **Food processing** Food products and processing systems	**Laws and regulatory codes** • principles of the HACCP system ▪ conduct a hazard analysis ▪ identify critical control points ▪ establish critical limits for each critical control point ▪ establish critical control point monitoring requirements ▪ establish corrective actions ▪ verify procedures ▪ establish record keeping procedures • regulation of food safety in Australia ▪ state authorities ▪ local authorities • *Occupational Safety and Health Act 1984* and the rights and responsibilities of employers and employees in food environments **Food products and processing systems** • devise food products ▪ apply preparation and processing techniques	**Task 7: Test- Laws and regulatory codes (Term 3 Week 8)**
3	9-10	**Food processing** Food products and processing systems	**Food products and processing systems** • devise food products • apply preparation and processing techniques	

At times, due to in class functions, some delivery of content may be rescheduled, so that students have better opportunities to learn and display their skills.