**SACE Stage 1 and 2 Nutrition: Suggested/possible practical activities and Case studies**

**SACE Stage 1 Concepts and Nutrition understandings**

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| **Topic concepts** | **Nutritional understanding** | **Practical activity** | **Case study** | **SHE** |
| **Topic 1:** Principles of nutrition, physiology, and health | **Fundamentals of nutrition**   * *Overnutrition* * *Undernutrition* * *Dietary disorders* | Nutrient content in foods  Vitamin C concentration in foods  Analysing exercise and heart disease data | Dietary analysis and assessment  Dietary disorders and dietary intake | New diabetes medication |
| **Topic 2:** Health promotion and emerging trends | **Food marketing and nutritional guidelines**   * *Psychology of food marketing* * *Australian guidelines* * *Nutrition in life cycle* * *Indigenous Australian food changes from traditional to contemporary* * *Organic verses GMO* * *Health promotion for specific community groups* | Advertising and impact on food choice  Modifying meals | Comparing diet campaigns  Tracking of elderly care to improve health and longevity of an aging population  Cause and implication of varying health statistics of Aboriginal and non-Aboriginal Australiana’s (use ABS data)  Organic foods | Unemployment Card and nutrition |
| **Food trends**   * *Specific foods and nutritional value* * *Future foods* * *Harvest to plate* | Comparing national content of super foods | Food miles (kms) investigation | Consumption of insects as a protein source (or as a Case study) |
| **Topic 3:** Sustainable food systems | **Water and sustainable food supply**   * *Water quality and health* * *Famine* * *Sustainable food futures* * *Waste management* * *Food banks* | Water quality testing  Famine biscuit | Value of food aid verses agricultural developments in fighting famine  Food crisis and possible solutions  Sustainable food farming ventures |  |
| **Food processing**   * *Fresh verse processed* * *Food packaging and labelling* * *Contaminated food* * *Safe food handling* * *Preservation methods* * *Chemical and functional changes in macronutrients* | Comparison of nutritional content of food in different processing technique  Food handling and safety  Food storage and safety  Food processing and GI (i.e. potatoes) |  |  |

**Note:** Students study 2 to 3 Nutritional concepts per semester with 2 underpinnings. (at least one from each topic?).

**SACE Stage 2 Concepts and Nutrition understandings**

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| **Topic concepts** | **Nutritional understanding** | **Practical activity** | **Case study** | **SHE** |
| **Topic 1:** Principles of nutrition, physiology, and health | Biochemistry of nutrients | Identifying the presence of macronutrient in foods  Identifying the presence of micronutrient in foods  Energy value of foods |  | Vitamin D and health |
| Nature of diet related disorders | Dietary analysis of diet and dietary disease  **Scott’s South Pole diet (2)** | Dietary analysis and assessment  Scott’s South Pole diet | Meat and cholesterol  Impact of restricted eating and weight loss |
| Digestive system | **Digestion of starch (3)**  **Digestion of protein (4)**  Digestion of carbohydrates  **Absorption rate of different carbohydrates,** e.g. blood glucose levels **(3)** |  | Gut bacteria and health |
| Diet and health through the lifecycle | **Cardiovascular disease and exercise (5)** Fibre intake and colon cancer statistics | Nutritional meals to meet needs of life cycle and life style |  |
| **Topic 2:** Health promotion and emerging trends | Food legislation, labelling, safety, additives and fortification | Microorganisms and food |  |  |
| Education programs and diagnostic tools | Effectiveness or usefulness of **diagnostic tools** e.g.BMI **(6)** |  |  |
| Factors influencing food choice | Sensory analysis  **Sensory threshold (Bliss point for sugar, salt, fat etc) (8)**  Advertising and food choices |  | Sugar and impact on brain |
| **Topic 3:** Sustainable food systems | Food systems and environment | Mineral nutrition of plants in various food systems | Fish farming verse Ocean fishing industry  Vertical farms solution bringing fresh produce to remote areas |  |
| Food processing and packaging | Types of packaging and nutrient content of food  Fresh peas verse frozen and canned peas | Food packaging |  |
| Food innovations | MAP Packaging, Sou viz |  |  |
| Food waste |  | OZ Harvest |  |

15th Nov 12.52pm to 2.22pm (1hr 30min)

27th Nov

1st Dec 9.30pm to 11pm