**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 foodsVitamin C concentration in foodsAnalysing exercise and heart disease data | Dietary analysis and assessmentDietary 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 choiceModifying meals | Comparing diet campaignsTracking of elderly care to improve health and longevity of an aging populationCause 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 testingFamine biscuit | Value of food aid verses agricultural developments in fighting famineFood crisis and possible solutionsSustainable 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 techniqueFood handling and safetyFood storage and safetyFood 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 foodsIdentifying the presence of micronutrient in foodsEnergy 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 assessmentScott’s South Pole diet | Meat and cholesterolImpact 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 industryVertical farms solution bringing fresh produce to remote areas |  |
| Food processing and packaging | Types of packaging and nutrient content of foodFresh 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