Stage 6 Food technology

## Contemporary nutrition issues

This unit is part of the HSC course and explores the relationship between the nutritional status of specific groups that are nutritionally vulnerable within the Australian community. These groups include adolescent girls, pregnant and lactating women, post-menopausal women, middle-aged men living alone, the elderly, people with health conditions that are managed with diet or those who have a restricted diet, athletes and Aboriginal and Torres Strait Islander people.

## Outcomes

**H2.1** evaluates the relationship between food, its production, consumption, promotion and health

**H3.2** independently investigates contemporary nutrition issues

**H5.1** develops, realises and evaluates solutions for a range of food situations.

[Food Technology Stage 6 Syllabus](https://educationstandards.nsw.edu.au/wps/portal/nesa/11-12/stage-6-learning-areas/technologies/food-technology-syllabus) © NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales, 2013.

## Delivery strategies

This resource is adaptable for teachers to use with online platforms such as Google Classroom. Links to the videos and websites could be posted for students to access during learning at home. The activities and questions could be set as classwork documents within Google Classroom that the students complete and submit for a grade or feedback. Alternatively, students could receive the activities and questions as worksheets to complete and submit at a later date.

Websites are suggestions as teachers may already have links and resources developed to address the questions and activities.

## Section one:

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| Focus area | Contemporary nutrition issues |
| Syllabus Content | Diet and health in Australia* physical effects and economic costs of malnutrition (under and over nutrition) and diet related disorders
* nutritional considerations for specific groups
* the role of the individual, community groups, the food industry, government organisations and private agencies in promoting health the production/manufacture of nutritionally modified foods to meet consumer demand including a range of functional foods such as fortified foods
* the role of ‘active non-nutrients’ in the diet, for example phytochemicals, probiotics and fibre
* the role of supplements in the diet
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| Resources | * [Diet and Health in Australia (2018)](https://www.nutritionaustralia.org/national/news/2018/10/tryfor5-latest-research-shows-healthy-diet-has-mental-health-and-memory-functi) – website
* [Australian Bureau of Statistics](https://www.abs.gov.au/) – website
* [Building a Healthy Australia](https://www.nhmrc.gov.au/) – website
* [The Heart Foundation](https://www.heartfoundation.org.au/) – website
* [Active Non - Nutrients and Health](https://prezi.com/kbg_wxoysbnl/active-non-nutrients-and-health/) – Prezi.com PowerPoint
* [Nutrition Related Supplements: The good, the bad, the unknown](https://www.youtube.com/watch?v=RXuKyjnCoII) (duration 1:15:35)
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| Activities/questions | Within the Australian community there are specific groups that are nutritionally vulnerable. Groups that are most at risk are:* Adolescent girls
* Pregnant and lactating women
* Postmenopausal women
* Middle-aged men who live alone
* The elderly
* People with health conditions that are managed with diet or those who have a restricted diet
* Athletes
* Aboriginal and Torres Strait Islander people
1. Students are required to select one of these groups listed above and conduct independent investigation into the following areas:
2. briefly describe some characteristics of the group (for example, demographics and percentage of the population).
3. identify and explain the health risks associated with the group.
4. explain the consequences of malnutrition in physical and economic terms for this group.
5. identify the dietary needs of this group.
6. describe any strategies that are presently in place to address the issues associated with the nutritional risks of the group such as advertising. For example, Australian Heart Foundation campaigns.
7. Using this knowledge students develop a strategy to promote optimum nutrition for the group through good nutrition. For example, exercise programs and suitable recipes for optimal nutrition.

Students should be encouraged to use pictures or illustrations to support their presentation of ideas.1. Using the information from a variety of sources and [Active Non - Nutrients and Health](https://prezi.com/kbg_wxoysbnl/active-non-nutrients-and-health/) as an example, students develop a presentation covering the following points:
2. definition of active non-active nutrients.
3. role/s of active non-active nutrients in the diet.
4. benefits and risks of active non-active ingredients.
5. examples of active non-active ingredients.
6. Students prepare a set of arguments for a debate on the role of dietary supplements in a balanced diet. For reference, this debate [Nutrition Related Supplements: The good, the bad, the unknown](https://www.youtube.com/watch?v=RXuKyjnCoII) (duration 1:15:35) may provide some context and highlights some key issues. Students gather their research and background knowledge for arguments in a table using the headings below:
7. Definition of dietary supplements
8. Role/s of dietary supplements in the diet
9. Benefits and risks of dietary supplements
10. Examples for dietary supplements

Depending on the student access to online platforms, teachers may organise the sharing and discussing of these arguments within the class, synchronously like a virtual debate or asynchronously. |
| Suggested answers | 1. Specific groups have particular nutritional needs depending on their physical state, age, health status, level of exercise, nationality.

For example, Aboriginal and Torres Strait Islanders* + indigenous people have significant health disadvantages; low life expectancy (18 years less than non-indigenous person)
	+ alcoholism and obesity is experienced.
	+ poor education, increasing poverty,
	+ inadequate access to health services and food supply (geographic isolation) contribute to cardiovascular disease and type 2 diabetes.
1. Strategies to promote optimum health of indigenous people:
	* health, hygiene and nutrition education programs (bush food, encourage physical activity, maintain cultural values)
	* aboriginal health service officers (ensure health service is used)
	* early intervention programs, improving supply, affordability of health foods in remote community.
2. Active non-nutrients are substances that are not essential for life but contribute to good health or enhance body functioning. For example, yoghurt has two active non-nutrients being fibre and probiotics.
3. Dietary supplements in a balanced diet
	* A dietary supplement is a product taken orally that contains one or more ingredients such as vitamins or amino acids, which supplement or enhance the diet and are not considered a food.
	* Popular supplements include vitamins such as vitamin D and B12, minerals such as calcium and iron, herbs such as Echinacea and garlic and products like glucosamine, probiotics and fish oils.
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## Section two:

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| Focus area | Contemporary nutrition issues |
| Syllabus Content | Influences on nutritional status* health and the role of diet in the development of conditions, including obesity, diabetes, cardiovascular disease, food sensitivity/intolerance/allergies
* lifestyle and the effect of cultural and social practices on nutritional status
* media and ethical issues related to advertising practices on food consumption such as the promotion of ‘health’ foods and ‘fast’ foods
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| Resources | * [Diet, Health and Lifestyle in Australia](https://www.aihw.gov.au/reports-data/behaviours-risk-factors/food-nutrition/overview) – website
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| Activities/questions | 1. Lifestyle and the effect of cultural and social practices has an impact on the nutritional status of Australians. This has led to the development of health conditions such as:
	* Coronary Heart Disease (CHD)
	* Hypertension
	* Dental caries
	* Obesity
	* Atherosclerosis
	* Diabetes
	* Constipation.

Choose one dietary condition above and create a presentation. For the selected disorder:* + define the disorder
	+ symptoms of the disorder
	+ prevention of the disorder
	+ examples of food and meals to prevent the disorder
	+ other considerations such as lifestyle choices such as exercise.
1. Survey television advertisements during peak times 4 - 6 pm weekdays and 8 -10 am Saturdays. Advertisements surveyed should be directed toward foods, meals, dietary supplements, weight loss, take away, super market food productions.

Organise results in a table with the following headings:* + name the advertisement/s
	+ product being advertised
	+ target group advertisement is being aimed at for example families, children, adolescents, fitness, weight loss
	+ what strategies are used to persuade consumers to purchase food? For example, two for one, little minis.
1. Discuss ethical issues related to the responsible advertising of food products.
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| Suggested answers | 1. Example: Coronary Heart Disease (CHD)
	* Coronary arteries are the blood vessels that supply oxygen and blood to the heart. CHD tends to develop when cholesterol builds up on the artery walls, creating plaques. These plaques cause the arteries to narrow, reducing blood flow to the heart. It can often lead to heart attack.
	* Prevention - eat a balanced diet, exercise regularly, maintain a healthy weight, reduce alcohol consumption, give up smoking.
2. Example: Little minis - spend $30 at Coles and receive a free little mini, targeted at shoppers but using children to drive purchases to receive a toy.
3. False and misleading dietary related effects such as high salt intake, dietary supplements which can cause diabetes, heart disease.
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