

E291 FOOD TECHNOLOGY (YEAR 12) – 2008 - 2009

Rationale

This subject aims to develop in students the ability to critically evaluate products, processes and systems of the food industry and their impact on consumers.

In applying the technology process to the development of food products, students will consider the legal, ethical, social, cultural and economic consequences of both their design solutions and the development and use of technologies in the food industry. In developing food products students will be required to select, use and evaluate the materials, information and systems used by the food industry which result in a quality item. Through an understanding of innovation and the interaction between consumers and the industry, students will be able to identify opportunities for enterprise.

Students will gain knowledge, understanding, skills and attitudes that will equip them for entry level to a wide range of employment opportunities in the food industry.

Subject Design

This subject stipulates a set of outcomes. These describe what the student can do as a result of studying the subject. On completion of the subject the student must have been provided with at least two opportunities to demonstrate achievement of each outcome.

A set of components is listed under each outcome. These components are specified for the development of each outcome and indicate how students will demonstrate achievement of the outcome in this subject. The teaching/learning program will give coverage to all components in order to ensure each outcome is appropriately addressed.

If schools wish to vary these components they may do so, provided it can be demonstrated that the outcomes can still be achieved and that the subject is still assessed through the common assessment framework described for the subject. Proposals for variations must be submitted to the Curriculum Council for approval.

The assessment framework, based on a series of generally defined common assessment tasks, has been stipulated for the subject. Each task measures student performance on a subset of subject outcomes. A generalised set of performance criteria supports the assessment framework.

A procedure for rating student performance on each outcome and allocating grades has also been stipulated.

Subject Outcomes

Within the context of Food Technology, the student is provided with opportunities to meet each of the following outcomes.

- Outcome 1:** Makes food products which demonstrate the application of knowledge of the role and function of ingredients.
- Outcome 2:** Develops food products that meet specifications of identified market segments.
- Outcome 3:** Examines the relationship between consumers and the Australian food industry.
- Outcome 4:** Applies quality control to food production systems.
- Outcome 5:** Evaluates food handling in manufacturing, retail and food service industries.
- Outcome 6:** Explains the role of government in relation to the Australian food industry.
- Outcome 7:** Identifies legal and ethical issues related to the food industry.
- Outcome 8:** Demonstrates the skills needed to gain entry level employment in the Australian food industry.
- Outcome 9:** Identifies a range of marketing systems and strategies used by the Australian food industry.
- Outcome 10:** Evaluates current health promotion programs which relate to food.

Components of Outcomes

Outcome 1: Makes food products which demonstrate the application of knowledge of the role and function of ingredients.

The following components amplify the context and meaning of the outcome. The student:

- analyses the nutritional content of ingredients
- applies knowledge of the functions of carbohydrates, fats and proteins in the development of food products
- demonstrates a knowledge of how the components of a food product affect storage
- selects ingredients which maximise storage qualities of food products.

Outcome 2: Develops food products that meet specifications of identified market segments.

The following components amplify the context and meaning of the outcome. The student:

- investigates issues relating to specific segments of the food market
- applies the functional properties of food to the development of food products
- generates a variety of design concepts for a range of market segments
- evaluates foods based on sensory, economic and nutritional criteria.

Outcome 3: Examines the relationship between consumers and the Australian food industry.

The following components amplify the context and meaning of the outcome. The student:

- discusses the potential of the food industry to be influenced by the attitudes, beliefs and behaviours of consumers e.g. environmental concerns, dietary requirements, cultural influences
- discusses the potential of the food industry to influence consumer behaviour
- researches evidence and discusses the consequences of interactions between consumers and the Australian food industry.

Outcome 4: Applies quality control to food production systems.

The following components amplify the context and meaning of the outcome. The student:

- demonstrates the ability to select production methods which optimise the quality of foods when preparing food in quantity e.g. post harvest handling, selection of ingredients, recipe selection, food safety, maintenance of nutritional quality, appearance, flavour, texture
- demonstrates portion control
- explains the use and importance of quality control in food production.

Outcome 5: Evaluates food handling in manufacturing, retail and food service industries.

The following components amplify the context and meaning of the outcome. The student:

- explains the sources of food contamination and spoilage
- identifies hygienic food handling practices during preparation and storage of food
- appraises food handling practices observed in commercial situations.

Outcome 6: Explains the role of government in relation to the Australian food industry.

The following components amplify the context and meaning of the outcome. The student:

- explains the responsibilities of Federal, State and Local government in regulating the primary sector of the Australian food industry e.g. primary produce quotas, safe food supply, environmentally sustainable foods
- explains the responsibilities of Federal, State and Local government in regulating the manufacturing sector of the Australian food industry e.g. labelling, additives, preservatives and colourings, food distribution
- explains the responsibilities of Federal, State and Local government in regulating the retail sector of the Australian food industry e.g. advertising, food recall, distribution, food handling.

Outcome 7: Identifies legal and ethical issues related to the food industry.

The following components amplify the context and meaning of the outcome. The student:

- investigates legal and ethical issues related to the use and development of technology in the food industry e.g. genetically engineered foods, technological equipment
- discusses the legal and ethical issues relating to advertising in the food industry e.g. sponsorship, labelling
- investigates the legal and ethical issues related to environmental concerns resulting from the practices of the food industry e.g. food wastage, pollution
- analyses the legal and ethical issues related to the food industry and discusses their implications for consumers and the industry.

Outcome 8: Demonstrates the skills needed to gain entry level employment in the Australian food industry.

The following components amplify the context and meaning of the outcome. The student:

- demonstrates competence in food handling skills, displays the ability to work individually and in teams to meet specified targets
- demonstrates effective oral and written communication skills
- demonstrates standards of personal presentation required of food industry employees.

Outcome 9: Identifies a range of marketing systems and strategies used by the Australian food industry.

The following components amplify the context and meaning of the outcome. The student:

- explores products and processes used by the Australian food industry to market fresh and processed foods
- identifies strategies used by segments of the food industry to gain and maintain market share e.g. product, placement, price, promotion
- evaluates the marketing of new food products
- analyses a range of marketing systems and explains their effect on consumers.

Outcome 10: Evaluates current health promotion programs which relate to food.

The following components amplify the context and meaning of the outcome. The student:

- identifies the marketing strategies used in selected health promotion programs
- examines the impact of a selected health promotion program on a target market
- discusses the ethical issues raised in the promoting of health programs.

Common Assessment Framework

The framework outlined below specifies a series of common assessment tasks for this subject. The teacher has the flexibility to select from the Food Technology outcomes those to be assessed in each task. On completion of the subject the student must have been provided with at least two opportunities to demonstrate achievement of each outcome.

Each common assessment task measures student performance on a subset of subject outcomes. For each outcome measured in a task, student performance will be rated as Very High (V), High (H), Satisfactory (S) or Not Demonstrated (ND).

FOOD TECHNOLOGY		
Task	Specified Outcome	Task Description
One	<i>The teacher has the flexibility to select the outcomes to be assessed in each task.</i>	Marketing Strategies Report
Two		Consumer Research
Three		Case Study
Four		Project Folio

Common Assessment Tasks Booklet

The *Common Assessment Tasks* booklet for this subject further describes each task, and defines parameters for its completion. Schools are free to determine specific assessment details within these parameters. Copies of the booklet are available from the Curriculum Council and are included with the syllabus, on the Curriculum Council website (<http://www.curriculum.wa.edu.au>).

Performance Criteria

Outcome 1: Makes food products which demonstrate the application of knowledge of the role and function of ingredients.

Satisfactory	High	Very High
The student is able to demonstrate knowledge of the role and function of ingredients when making food products.	The student is able to demonstrate knowledge of and use alternative ingredients when making food products.	The student is able to use and justify a range of alternative ingredients.

Outcome 2: Develops food products that meet specifications of identified market segments.

Satisfactory	High	Very High
The student is able to develop food products which meet the specifications of identified market segments.	The student is able to apply a knowledge and understanding of the functional properties of food to the development of food products which meet the specification of identified market segments.	The student is able to apply a knowledge and understanding of the functional properties of food to the development of food products which meet the specifications of identified market segments and analyse issues specific to those market segments.

Outcome 3: Examines the relationship between consumers and the Australian food industry.

Satisfactory	High	Very High
The student is able to identify the relationship between consumers and the Australian food industry.	The student is able to draw conclusions relating to the relationship between consumers and the Australian food industry.	The student is able to justify conclusions relating to the relationship between consumers and the Australian food industry.

Outcome 4: Applies quality control to food production systems.

Satisfactory	High	Very High
The student is able to select and use quality control procedures in food production.	The student is able to select and use quality control procedures in the production of quality food products.	The student is able to select, use and appraise quality control procedures which result in the production of quality products.

Outcome 5: Evaluates food handling in manufacturing, retail and food service industries.

Satisfactory	High	Very High
The student is able to evaluate safe food handling practices in manufacturing, retail and food service industries.	The student is able to evaluate safe food handling practices in a range of contexts and identify potential sources of food contamination and spoilage.	The student is able to evaluate safe food handling practices in a range of contexts, identify potential sources of food contamination and spoilage and recommend procedures which maximise food safety.

Outcome 6: Explains the role of government in relation to the Australian food industry.

Satisfactory	High	Very High
The student is able to explain the role of government in relation to the Australian food industry.	The student is able to explain the government regulations which affect the Australian food industry.	The student is able to explain the government regulations which affect the Australian food industry and analyse their impact on industry practices.

Outcome 7: Identifies legal and ethical issues related to the food industry.

Satisfactory	High	Very High
The student is able to identify the legal and ethical issues related to the Australian food industry.	The student is able to discuss the legal and ethical issues related to the Australian food industry.	The student is able to analyse the legal and ethical issues related to the Australian food industry and debate their implications for consumers and the industry.

Outcome 8: Demonstrates the skills needed to gain entry level employment in the Australian food industry.

Satisfactory	High	Very High
The student is able to demonstrate competence in skills needed to gain entry level employment in the Australian food industry.	The student is able to identify and demonstrate competence in skills needed to gain entry level employment in the Australian food industry.	The student is able to identify, demonstrate competence in and justify the need for skills required to gain entry level employment in the Australian food industry.

Outcome 9: Identifies a range of marketing systems and strategies used by the Australian food industry.

Satisfactory	High	Very High
The student is able to identify a range of marketing systems and strategies relevant to the Australian food industry.	The student is able to identify and analyse a range of marketing systems and strategies relevant to the Australian food industry.	The student is able to identify and analyse a range of marketing systems and strategies relevant to the Australian food industry and explain their effect on the consumer.

Outcome 10: Evaluates current health promotion programs which relate to food.

Satisfactory	High	Very High
The student is able to discuss current health promotion programs which relate to food.	The student is able to analyse current health promotion programs which relate to food.	The student is able to analyse current health promotion programs which relate to food, evaluate their impact on specific target groups and identify relevant ethical issues.

Rating Procedure

Before a final grade can be awarded, the final rating achieved for each outcome must be determined. This is done using the following process:

- V is attained when at least 50% of ratings are at a Very High level, and at least 50% of the remainder are at a High level or better.
- H is attained when at least 50% of ratings are at a High level or better, and at least 50% of the remainder are at a Satisfactory level or better.
- S is attained when at least 50% of ratings are at a Satisfactory level or better.
- ND is attained when more than 50% of ratings are at a Not Demonstrated level.

Where a student fails to achieve a final rating of S for an outcome, teachers are encouraged to provide the student with an additional opportunity to demonstrate S if:

- the student has completed all the CATs incorporating that outcome; and
- the student has demonstrated S for that outcome in at least one task.

The additional opportunity should not simply be a repetition of a task, but should be an equivalent task which reflects a change of context in which the task is done.

Professional judgement should then be used to determine whether a final rating of ND or S is appropriate in each situation.

Grading Procedure

At the completion of this subject grades will be awarded in the following manner:

- A Very High in at least 50% of outcomes, and High or better in at least 50% of the remainder.
- B High or better in 50% of outcomes, and Satisfactory or better in the remainder.
- C Satisfactory or better in all outcomes.
- D Satisfactory or better in at least 50% of the outcomes.
- E Not Demonstrated in more than 50% of the outcomes.

A final rating of ND for any outcome will result in a grade of D being awarded.

Specific details giving examples of the combination of V, H and S resulting in different grades can be found in the *Common Assessment Tasks* booklet.

Time Allocation

The subject has been designed to be completed through a structured education program of approximately 110 hours in any suitable contexts and series of learning experiences. Typically the subject will be studied over the period of one school year. For administrative reasons schools wishing to vary this delivery pattern (e.g. over a shorter period or over a longer period up to two school years) are required to notify the Chief Executive Officer of the Curriculum Council.

Subject Completion

Students must complete the school's structured educational and assessment program for a subject in order to be eligible to receive a grade unless there are exceptional and justifiable circumstances. In situations where the school considers that insufficient information has been gathered to justify the award of a grade for the subject, a result of U (for unfinished) should be allocated. The Curriculum Council offers the flexibility for the U to be converted to a grade after the final grades have been submitted. Further details on assessment and grading are provided in Volume I of the Syllabus Manuals.

Resources

Support Material

Support material for this subject, including a resources list can be ordered through the Curriculum Council Publications Catalogue and is available on the Curriculum Council website (<http://www.curriculum.wa.edu.au>).