BOARD OF STUDIES
NEW SOUTH WALES

Food Technology
Stage 6

Syllabus

Amendments
2009

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Contents

1 The Higher School Certificate Program of Study

The purpose of the Higher School Certificate program of study is to:

- provide a curriculum structure that encourages students to complete secondary education;

- foster the intellectual, social and moral development of students, in particular developing their:
  - knowledge, skills, understanding and attitudes in the fields of study they choose
  - capacity to manage their own learning
  - desire to continue learning in formal or informal settings after school
  - capacity to work together with others
  - respect for the cultural diversity of Australian society;

- provide a flexible structure within which students can prepare for:
  - further education and training
  - employment
  - full and active participation as citizens;

- provide formal assessment and certification of students' achievements;

- provide a context within which schools also have the opportunity to foster students' physical and spiritual development.

2 Rationale for Food Technology in the Stage 6 Curriculum

For the purposes of the *Food Technology Stage 6 Syllabus*, food technology refers to knowledge and activities that relate to meeting food needs and wants. The provision and consumption of food are significant activities of human endeavour, with vast resources being expended across domestic, commercial and industrial settings. Food issues have a constant relevance to life. This concept underpins the subject and is reflected throughout the Preliminary and HSC courses.

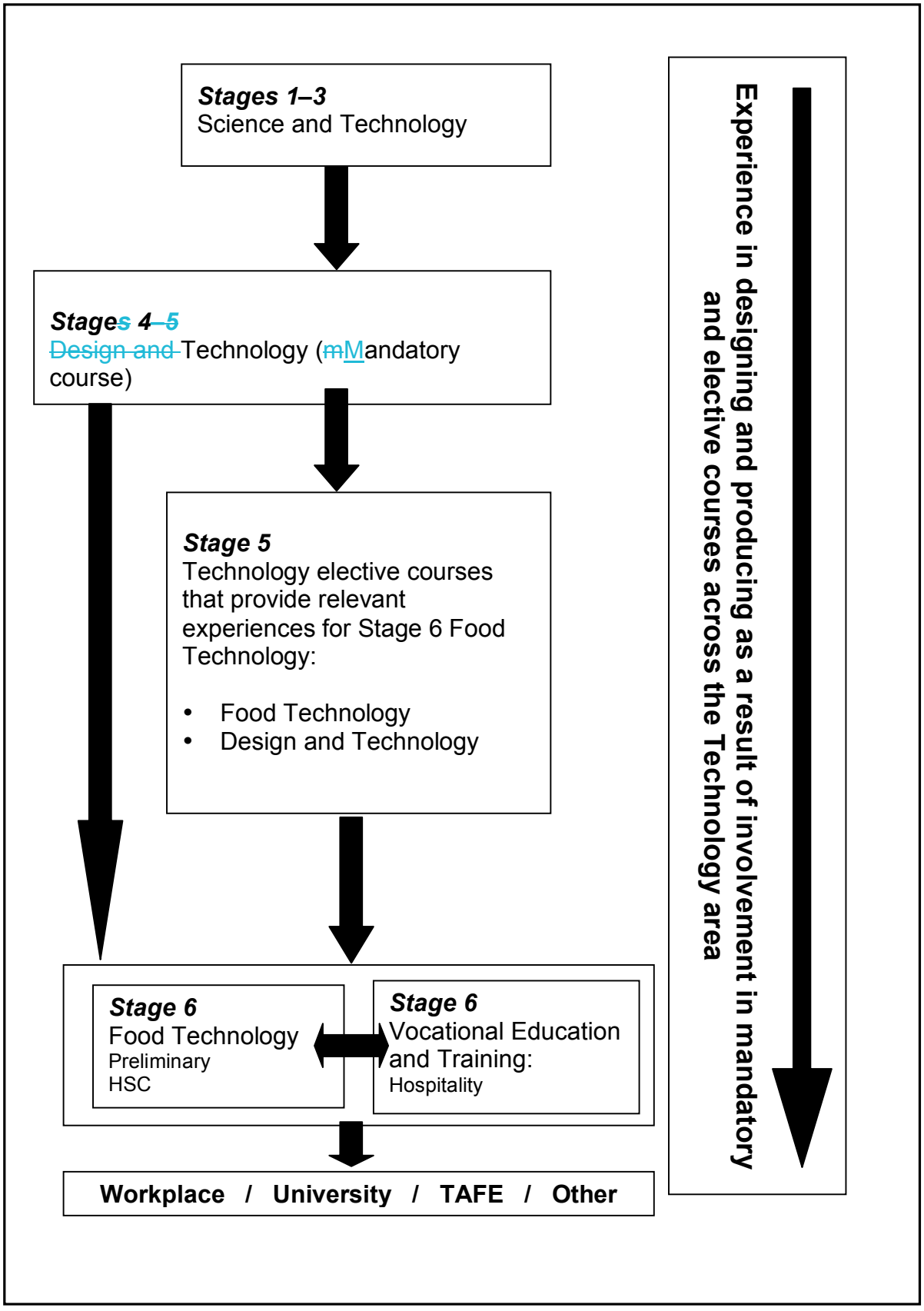
The syllabus provides students with a broad knowledge of food technology. The factors that influence food availability and selection are examined and current food consumption patterns in Australia investigated. Food handling is addressed with emphasis on ensuring safety and managing the sensory characteristics and functional properties of food to produce a quality product. The role of nutrition in contributing to the health of the individual and the social and economic future of Australia is explored. The structure of the Australian food industry is outlined and the operations of one organisation investigated. Production and processing practices are examined and their impact evaluated. The activities that support food product development are identified and the process applied in the development of a food product. Contemporary ~~food~~ nutrition issues ~~related to nutrition or the market place~~ are raised, investigated and debated. This knowledge enables students to make informed responses to changes in the production to consumption continuum and exert an influence on future developments in the food industry as educated citizens and in their future careers.

Opportunities exist for students to develop skills relating to food that are relevant and transferable to other settings. Such skills include the ability to research, analyse and communicate. Students also develop the capability and competence to experiment with and prepare food as well as design, implement and evaluate solutions to a range of food situations.

The syllabus is inclusive of the needs, interests and aspirations of both genders and provides opportunities and challenges for students of all abilities to deal with food products and systems. In order to be a relevant and meaningful learning experience, which fully extends students' understanding and application of food technology, programs developed from this syllabus must take into consideration the life experiences, values, learning styles and characteristics of both male and female students. The knowledge, skills and attitudes gained during the course will have applications to, and provide benefits for, both vocational and general life experiences.

With the knowledge, skills and attitudes gained through the study of this syllabus, young men and women will have the potential to contribute positively to their own future and to the social, economic and ecological future of Australia.

3 Continuum of Learning for Food Technology Stage 6 Students



4 Aim

Food Technology Stage 6 aims to develop an understanding about food systems and skills that enable students to make informed decisions and carry out responsible actions. Students will also develop an appreciation of the importance of food to the wellbeing of the individual and to the social and economic future of Australia.

5 Objectives

Students will develop:

1. knowledge and understanding about food systems in the production, processing and consumption of food and an appreciation of their impact on society

2. knowledge and understanding about the nature of food and human nutrition and an appreciation of the importance of food to health

3. skills in researching, analysing and communicating food issues

4. skills in experimenting with and preparing food by applying theoretical concepts

5. skills in designing, implementing and evaluating solutions to food situations.

6 Course Structure

The following schematic diagram provides an overview of the arrangement of components in the Preliminary course and HSC course for Stage 6 Food Technology.

Preliminary Course	HSC Course
Core strands (100% total)	**Core strands (~~75~~100% total)**
Food Availability and Selection (30%) • Influences on food availability • Factors affecting food selection **Food Quality (40%)** • Safe storage of food • Safe preparation and presentation of food • Sensory characteristics of food • Functional properties of food **Nutrition (30%)** • Food nutrients • Diets for optimum nutrition	**The Australian Food Industry (~~15~~25%)** • Sectors of the AFI • Aspects of the AFI • Policy and legislation **Food Manufacture (~~30~~25%)** • Production and processing of food • Preservation • Packaging, storage and distribution • ~~Impact of food manufacturing technologies~~ **Food Product Development (~~30~~25%)** • Factors which impact on food product development • Reasons for and types of food product development • Steps in food product development • Marketing plans
	~~**Option strands (25% total)**~~
	~~Select **one** of the following options:~~ **Contemporary ~~Food~~ Nutrition ~~Nutrition~~ Issues~~:~~ (25%)** • Diet and health in Australia • Influences on nutritional status ~~**OR**~~ ~~**Contemporary Food Issues: Marketplace (25%)**~~ • ~~Trends in the marketplace~~ • ~~Implications of marketplace trends~~

7 Objectives and Outcomes

7.1 Table of Objectives and Outcomes

Objectives	Preliminary Outcomes	HSC Outcomes
Students will develop: 1. knowledge and understanding about food systems in the production, processing and consumption of food and an appreciation of their impact on society	A student: P 1.1 identifies and discusses a range of historical and contemporary factors which influence the availability of particular foods P 1.2 accounts for individual and group food selection patterns in terms of physiological, psychological, social and economic factors	A student: H1.1 explains manufacturing processes and technologies used in the production of food products H1.2 examines the nature and extent of the Australian food industry H1.3 justifies processes of food product development and manufacture in terms of market, technological and environmental considerations H1.4 evaluates the impact of the operation of an organisation within the Australian Food Industry ~~food manufacture~~ on the individual, society and environment
2. knowledge and understanding about the nature of food, human nutrition and an appreciation of the importance of food to health	P 2.1 explains the role of food nutrients in human nutrition P 2.2 identifies and explains the sensory characteristics and functional properties of food	H2.1 evaluates the relationship between food, its production, consumption, promotion and health
3. skills in researching, analysing and communicating food issues	P 3.1 assesses the nutrient value of meals/diets for particular individuals and groups P 3.2 presents ideas in written, graphic and oral form using computer software where appropriate.	H3.1 investigates operations of one organisation within the Australian food industry H3.2 independently investigates contemporary ~~food~~ nutrition issues
4. skills in experimenting with and preparing food by applying theoretical concepts	P4.1 selects appropriate equipment, applies suitable techniques, and utilises safe and hygienic practices when handling food P4.2 plans, prepares and presents foods which reflect a range of the influences on food selection P4.3 selects foods, plans and prepares meals/diets to achieve optimum nutrition for individuals and groups P4.4 applies an understanding of the sensory characteristics and functional properties of food to the preparation of food products	H4.1 develops, prepares and presents food using product development processes H4.2 applies principles of food preservation to extend the life of food and maintain safety
5. skills in designing implementing and evaluating solutions to food situations	P 5.1 generates ideas and develops solutions to a range of food situations	H5.1 develops, realises and evaluates solutions to a range of food situations

7.2 Key Competencies

Food Technology Stage 6 provides a context within which to develop general competencies essential for students to become effective learners and make a positive contribution to their community.

During the course students learn to:

- source, select and sequence information about food issues developing competence in ***collecting, analysing and organising information***
- debate, describe, discuss and explain food issues in written, graphic and oral form, developing competency in ***communicating ideas and information***
- plan, prepare and present foods and meals to meet a range of needs developing competence in ***planning and organising activities***
- cooperate with individuals and groups developing competence in ***working with others and teams***
- design, implement and evaluate solutions to food situations, developing competence in ***solving problems***
- evaluate the nutritional requirements and assess the nutritional value of meals/diets for individuals and groups, developing competence in ***using mathematical ideas and techniques***
- experiment with and prepare foods using appropriate materials and equipment developing competence in ***using technology***.

The course structure and pedagogy provide extensive opportunities to develop the key competencies.

8 Content: Food Technology Stage 6 Preliminary Course

8.1 Food Availability and Selection

Communities endeavour to obtain an adequate supply of food. Throughout human history, the availability of food has been determined by local and/or external influences. Selection of food is influenced by physiological and psychological factors as well as broader social and economic factors.

Outcomes

A student:

P1.1 identifies and discusses a range of historical and contemporary factors which influence the availability of particular foods

P1.2 accounts for individual and group food selection patterns in terms of physiological, psychological, social and economic factors

P4.2 plans, prepares and presents foods which reflect a range of the influences on food selection.

Students learn about:	Students learn to:
Influences on food availability • historical changes to the availability of food, including: – global migration of cultural groups – use of foods native to Australia • technological developments influential on food availability, including: – production and manufacturing processes and equipment techniques – storage and distribution techniques – marketplace practices	• outline the historical changes to food availability in Australia
• social, economic and political influences on food availability, including: – effects of poverty and affluence – type and state of the economy – government policy, eg taxation, ~~tariffs,~~ embargoes, subsidies, war, export strategies, ~~GST~~	• debate the issue of social justice related to food consumption in developed and developing regions of the world
Factors affecting food selection • physiological factors, including: – hunger, appetite, satiety – nutritional requirements, eg age, gender, size, activity level – reactions to food, eg appearance, odour, taste, allergy	• explain how various factors influence selection of food by individuals and groups
• psychological factors, including: – values, beliefs, habits, attitudes, emotions, self-concept, experiences	• prepare foods that reflect various factors influencing food selection
• social factors, including: – traditions and culture – lifestyle, eg employment, education, household structures, roles, geographic location, interests – social interaction, eg peer group, family hospitality – media	• investigate current food consumption and expenditure patterns in Australia • analyse the eating patterns of a selected group to identify influences on food selection
• economic factors, including: – the marketplace (retail and purchasing practices) – resource availability such as food processing equipment and food preparation skills – occupation and finances	

8.2 Food Quality

Quality food products result from safe and hygienic handling of food in domestic, commercial and industrial settings. The sensory characteristics and functional properties of food determine the most appropriate storage, preparation and presentation techniques used.

Outcomes

A student:

P2.2 identifies and explains the sensory characteristics and functional properties of food

P3.2 presents ideas in written, graphic and oral form using computer software where appropriate

P4.1 selects appropriate equipment, applies suitable techniques and utilises safe and hygienic practices when handling food

P4.4 applies an understanding of the sensory characteristics and functional properties of food to the preparation of food products.

Students learn about:	Students learn to:
Safe storage of food	
• methods of storing foods to maintain quality such as dry storage, cold storage and freezing	• describe methods of storing foods to maintain sensory characteristics and ensure safety
Safe preparation and presentation of food	
• equipment and utensils to produce quality food products across a range of settings	• select appropriate equipment and utensils to produce quality food products across a range of settings
• safe and hygienic work practices when handling food	• implement safe and hygienic work practices when handling food
• preparation methods to produce food products across a range of settings	• select and apply suitable preparation methods to produce quality food products and plate meals for service across a range of settings
• layout of food for visual appeal, including styling for photography and plating for service	• style foods for photography
Sensory characteristics of food	
• sensory characteristics of foods, including appearance, odour, taste (flavour) and texture (mouth feel)	• identify sensory characteristics that constitute quality in a variety of foods
• sensory assessment of a variety of foods	• evaluate the appeal of foods using sensory assessment
Functional properties of food	
• functional properties of food, including: – the role of proteins in denaturing, coagulation, gelation, foaming and browning – the role of carbohydrates in gelatinising, dextrinising, caramelising and crystallising – the role of fats in emulsifying and aerating	• explain some of the functional properties of food • identify the factors that affect the functional properties of food
• factors that affect the functional properties of food, including: – oxygen – temperature – acidity – agitation – enzymes – addition of other ingredients	• investigate through experimentation the factors that affect the functional properties of foods • prepare a range of foods which demonstrate the functional properties of food

8.3 Nutrition

Nutrition is a significant factor contributing to the health of the individual and to the economic and social future of the people of Australia. Planning diets to meet the requirements of particular individuals, preparing foods that are nutritious and assessing the nutritional value of products requires ~~a~~ knowledge of nutrition and skills in food preparation.

Outcomes

A student:

P2.1 explains the role of food nutrients in human nutrition

P3.1 assesses the nutrient value of meals/diets for particular individuals and groups

P3.2 presents ideas in written, graphic and oral form using computer software where appropriate

P4.3 selects foods, plans and prepares meals/diets to achieve optimum nutrition for individuals and groups

P5.1 generates ideas and develops solutions to a range of food situations.

Students learn about:	Students learn to:
Food nutrients • food nutrients: carbohydrates, proteins, lipids, vitamins, minerals and water	• identify food nutrients
• structure of carbohydrates, proteins and lipids	• identify types of carbohydrates, proteins, lipids and vitamins
• sources of carbohydrates, proteins, lipids, vitamins, minerals and water	• identify the nutrient composition of various foods
• functions of carbohydrates, proteins, lipids, vitamins, minerals and water in the body	• explain the functions of food nutrients in human nutrition
• significant interrelationships between nutrients, including: – iron and vitamin C – iron and fibre – calcium and phosphorous – calcium and vitamin D – calcium and fibre – calcium and lactose – folate and vitamin B12 – sodium and potassium	• combine foods to demonstrate nutritionally beneficial interrelationships between foods
• digestion, absorption and metabolism of food	• describe the process of digestion, absorption and metabolism of food
Diets for optimum nutrition • nutritional requirements throughout the life cycle	• investigate the recommended dietary intake of energy, protein, vitamins and minerals for particular individuals and groups using appropriate data such as RDI tables in print or electronic format
• current food selection guides and nutritional information that assist in planning and evaluating meals/diets	• select foods to provide a balanced intake of nutrients for particular individuals and groups to meet a variety of nutritional needs
• preparation techniques to produce nutritious foods	• use suitable preparation methods to optimise the nutritional value of foods
	• assess meals/diets in regard to meeting nutritional needs throughout the life cycle
	• plan, prepare, present and evaluate meals/diets that address the needs for optimal nutrition throughout the life cycle

9 Content: Food Technology Stage 6 HSC Course

9.1 The Australian Food Industry

The Australian food industry has developed in response to changes in our physical, social, technological, economic and political environment. This is evident in the structure, operations and products of the Australian food industry. The industry contributes significantly to the gross domestic product and is a major employer.

Outcomes

A student:

H1.2 examines the nature and extent of the Australian food industry

H1.4 evaluates the impact of the operation of an organisation within the Australian food industry on the individual, society and environment

H3.1 investigates operations of one organisation within the Australian food industry.

Students learn about:	Students learn to:
Sectors of the Australian food industry • sectors of the agri-food chain in the Australian food industry, including agriculture and fisheries, food processing/manufacturing, food service and catering, food retail	• identify sectors within the Australian food industry ~~and~~ • plan and prepare foods/meals that reflect sectors of the Australian food industry
• emerging technologies in food production, manufacturing and packaging including biotechnology in genetically modified foods, ecologically sustainable production methods, such as organic farming	• investigate an emerging technology ~~recent developments~~ in ONE sector of the Australian food industry • discuss the potential risks and benefits of using emerging technologies in food production and manufacture
Aspects of the Australian food industry • operation of organisations within the Australian food industry with particular attention to: – levels of operation and mechanisation, including household, small business, large companies, multinationals – research and development – quality assurance – consumer influences such as value added foods – impact on the – environment including waste management, packaging practices, production techniques, and transportation – economy eg generation of profit and changes in employment – society including lifestyle changes, ~~employment opportunities~~ – career opportunities and working conditions	• describe the activities carried out in ~~one~~ ONE organisation within the food industry ~~plan and prepare foods/meals that reflect aspects of the Australian food industry~~ • evaluate the impact of the operation of an organisation on individuals, society and the environment
Policy and legislation • advisory groups that have a role in formulating and implementing policy and legislation • government policies and legislation (local, state, federal) that impact on the Australian food industry including legislative requirements for labelling	• ~~identify~~ explain career opportunities and working conditions, including gender issues within the Australian food industry. • identify significant government policies and legislation and explain their impact upon the Australian food industry

9.2 Food Manufacture

Developments in food manufacture have an impact on society and the environment. A knowledge and understanding of food manufacturing processes ~~and their social and ecological impact engenders~~ informeds choices and encourages responsible patterns of consumption.

Outcomes

A student:

H1.1 explains manufacturing processes and technologies used in the production of food products

~~H1.4 evaluates the impact of food manufacture on the individual, society and environment~~

H4.2 applies principles of food preservation to extend the life of food and maintain safety.

Students learn about:	Students learn to:
Production and processing of food • quality and quantity control in the selection of raw materials for food processing	• describe processes that transform raw materials into manufactured food products
• role of food additives in the manufacturing process	
• characteristics of equipment used in different types of production and the factors influencing their selection	• ~~compare~~ describe the processing techniques, equipment, storage and distribution systems used in industry and compare with those used domestically
• production systems used in the manufacture of food, eg small scale, large scale, manual, automated, computerised	
• quality management considerations in industrial practices to achieve safe foods for public consumption, eg hazard analysis and critical control point (HACCP); occupational health, safety and hygiene	• identify critical control points and describe quality control procedures in food production systems
	• identify food safety hazards and risks

Preservation • reasons for preserving foods, eg safety, acceptability, nutritive value, availability and economic viability • causes of food deterioration and spoilage: – environmental factors (infestation, oxygen, light and water) – enzymatic activity – microbial contamination (mould, yeast and bacteria) • principles behind food preservation techniques, ~~such as~~ including temperature control and restriction of moisture, exclusion of air and pH • preservation processes, including canning, drying, pasteurising, freezing and fermenting	• prepare food using the principles of food preservation to ensure a safe product
Packaging, storage and distribution • functions of packaging and types of materials available • current developments in packaging, ~~eg~~ including active packaging; modified atmosphere packaging; sous vide • storage conditions and distribution systems at various stages of food manufacture ~~□legislative requirements for packaging and labelling~~	• investigate, through experimentation, the suitability of packaging materials for different food products
~~**Impact of food manufacturing technologies**~~ ~~□environmental issues, eg waste management, packaging practices, production techniques~~ ~~□social implications, eg lifestyle changes, employment opportunities~~ ~~□nutritional implications~~ ~~□appropriate use of technology~~	~~□analyse the impact of food manufacturing technologies on individuals, groups and society~~

9.3 Food Product Development

Food product development is an integrated system involving expertise in the fields of marketing and manufacture. The food product development process applies knowledge and skills developed through study of a range of areas, including nutrition, food properties and food manufacture.

Outcomes

A student:

H1.3 justifies processes of food product development and manufacture in terms of market, technological and environmental considerations

H4.1 develops, prepares and presents food using product development processes.

Students learn about:	Students learn to:
Factors which impact on food product development • external factors (macro-environment) that impact on food product development, including the: – economic environment – political environment – ecological environment – technological environment • internal factors (micro-environment) that impact on food product development, including: – personnel expertise – production facilities – financial position – company image	• analyse commercial practices in terms of a food company's response to the macro and micro environments • conduct a SWOT analysis to identify strengths, weaknesses, opportunities and threats
Reasons for and types of food product development • drivers of the development of food products: – market concerns such as health, dietary considerations and the environment – consumer demands such as convenience ~~and cost~~ foods and cost – societal changes including increasing ageing population, single person households and longer working hours – technological developments such as processing equipment and packaging materials – company profitability such as increasing market share ~~and entering new and non-traditional markets, eg Asia~~ ~~specialised applications such as military purposes and space missions~~ • types of food product development: – line extensions – me toos – new to world	• ~~identify~~ describe different types of food products on the market
Steps in food product development • design brief based on project aims and development criteria: – idea generation and screening – market research – product specifications – feasibility study – production process development – development of a prototype – testing product prototype, eg sensory evaluation, consumer testing, packaging tests, storage trials	• develop a food product that meets a consumer need
Marketing plans • product planning • price structure • place and distribution system • promotional program	• plan suitable strategies for the marketing of a specific food product

9.4 Option Strand: Contemporary Food Nutrition Issues : Nutrition

The decisions people make have social, economic, health and environmental consequences. Raising, investigating and debating contemporary food nutrition issues enable individuals to make informed decisions and respond appropriately.

Outcomes

A student:

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

H3.2 independently investigates contemporary food nutrition issues

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

Students learn about:	Students learn to:
Diet and health in Australia • physical effects and economic costs of malnutrition (under and over nutrition) and diet related disorders	• explain the consequences of malnutrition
• nutritional considerations for specific groups	• independently investigate and report on the health of a group in Australia and develop a strategy to promote optimum health through good nutrition for this group
• the role of the individual, community groups, the food industry, government organisations and private agencies in promoting health	• plan diets and prepare foods/meals to address dietary requirements of specific groups
• the production/manufacture of nutritionally modified foods to meet consumer demand including a range of functional foods such as ~~fortification~~ fortified foods	• discuss the relationship between nutritionally modified foods and health
• the role of 'active non-nutrients' in the diet, eg phytochemicals, probiotics and fibre	• discuss the role of 'active non-nutrients' in the diet
• the role of supplements in the diet~~, eg vitamins, minerals, protein~~	• debate ~~the value~~the role of dietary supplements in a balanced diet
~~• the role of the individual, community groups, the food industry, government organisations and private agencies in promoting health~~	
Influences on nutritional status • health and the ~~effect of heredity and~~ role of diet in the development of conditions, including obesity, diabetes, cardiovascular disease, food sensitivity/intolerance/allergies	• describe the relationship between nutrient intake and dietary disorders
• lifestyle and the effect of cultural and social practices on nutritional status	
• media and ~~the impact of~~ethical issues related to advertising practices on food consumption such as the promotion of 'health' foods and 'fast' foods	• discuss ethical issues related to the responsible advertising of food products ~~explain how advertising may influence attitudes towards foods and body image~~
~~• lifestyle and the effect of cultural and social practices such as food taboos and levels of physical activity~~	~~• plan diets and prepare foods/meals to address dietary requirements of specific groups~~

9.5 Option Strand: Contemporary Food Issues – Marketplace

Decisions made about food have social, economic, health and environmental consequences. Decision-making occurs constantly and may be through formal or informal processes. It may involve consumers making choices for themselves and their family or decisions that influence a company, a nation or the world.

Outcomes

A student:

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

H3.2 independently investigates contemporary food issues

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

Students learn about:	Students learn to:
Trends in the marketplace •emerging technology in food production, manufacturing and packaging, eg biotechnology in genetically modifying foods •ecologically sustainable production methods, eg organic farming •health enhancing foods, eg functional foods •value added convenience foods, eg home meal replacement •food product marketing practices, eg labelling foods with nutritional claims •ownership concentration in the food industry, eg multinational food companies •globalisation of the food trade, eg trade agreements	•identify trends in the marketplace •discuss the relationships between developments in the food industry and trends in the marketplace •plan and prepare foods/meals that reflect the trend toward value added products •identify factors contributing to the inequitable access to the global food supply and discuss the consequences •debate the issue of social justice related to food consumption in developed and developing parts of the world
Implications of marketplace trends •environmental impact, eg reduction of pesticide residue •economic impact, eg the generation of profit and the changes in employment •social impact, eg change to traditional diets and consumer health •ethical issues, eg responsible advertising of food products	•conduct a cradle-to-grave analysis of a food product to determine the cost benefit •discuss the potential risks and benefits of using technology in food production and manufacture •independently investigate and report on a trend in the marketplace and examine the environmental, economic, social and ethical implications

10 Course Requirements

The *Food Technology Stage 6 Syllabus* includes a Preliminary course of 120 hours (indicative time) and an HSC course of 120 hours (indicative time).

There is no prerequisite study for the Preliminary course. Completion of the Preliminary course is a prerequisite to the study of the HSC course.

In order to meet the course requirements, students must **learn about** food availability and selection, food quality, nutrition, the Australian food industry, food manufacture, food product development and contemporary ~~food~~ nutrition issues.

It is a mandatory requirement that students undertake practical activities. Such experiential learning activities are specified in the **learn to** section of each strand.

11. Post-school Opportunities

The study of Food Technology Stage 6 provides students with knowledge, understanding and skills that form a valuable foundation for a range of courses at university and other tertiary institutions.

In addition, the study of Food Technology Stage 6 assists students to prepare for employment and full and active participation as citizens. In particular, there are opportunities for students to gain recognition in vocational education and training. Teachers and students should be aware of these opportunities.

11.1 Recognition of Student Achievement in Vocational Education and Training (VET)

Wherever appropriate, the skills and knowledge acquired by students in their study of HSC courses should be recognised by industry and training organisations. Recognition of student achievement means that students who have satisfactorily completed HSC courses will not be required to repeat their learning in courses in TAFE NSW or other Registered Training Organisations (RTOs).

Registered Training Organisations, such as TAFE NSW, provide industry training and issue qualifications within the Australian Qualifications Framework.

The degree of recognition available to students in each subject is based on the similarity of outcomes between HSC courses and industry training packages endorsed within the Australian Qualifications Framework (AQF). Training packages are documents that link an industry's competency standards to AQF qualifications. More information about industry training packages can be found on the National Training Information Service (NTIS) website (www.ntis.gov.au).

Recognition by TAFE NSW

TAFE NSW conducts courses in a wide range of industry areas, as outlined each year in the *TAFE NSW Handbook*. Under current arrangements, the recognition available to students of Food Technology in relevant courses conducted by TAFE is described in the *HSC/TAFE Credit Transfer Guide*. This guide is produced by the Board of Studies and TAFE NSW and is distributed annually to all schools and colleges. Teachers should refer to this guide and be aware of the recognition available to their students through the study of Food Technology Stage 6. This information can be found on the TAFE NSW website (www.tafensw.edu.au/mchoice).

Recognition by other Registered Training Organisations

Students may also negotiate recognition into a training package qualification with another Registered Training Organisation. Each student will need to provide the RTO with evidence of satisfactory achievement in Food Technology Stage 6 so that the degree of recognition available can be determined.

12 Assessment and Reporting

Advice on appropriate assessment practice in relation to the Food Technology syllabus is contained in *Assessment and Reporting in Food Technology Stage 6*. That document provides general advice on assessment in Stage 6 as well as the specific requirements for the Preliminary and HSC courses. The document contains:

- suggested components and weightings for the internal assessment of the Preliminary course
- mandatory components and weightings for the internal assessment of the HSC course
- the HSC examination specifications, which describe the format of the external HSC examination.

The document and other resources and advice related to assessment in Stage 6 Food Technology are available on the Board's website at www.boardofstudies.nsw.edu.au/syllabus_hsc

12.1 Requirements and Advice

The information in this section of the syllabus relates to the Board of Studies requirements for assessing and reporting achievement in the Preliminary and HSC courses for the Higher School Certificate.

***Assessment* is the process of gathering information and making judgements about student achievement for a variety of purposes.**

In the Preliminary and HSC courses those purposes include:

- **assisting student learning**
- **evaluating and improving teaching and learning programs**
- **providing evidence of satisfactory achievement and completion in the Preliminary course**
- **providing the Higher School Certificate results.**

***Reporting* refers to the Higher School Certificate documents received by students that are used by the Board to report both the internal and external measures of achievement.**

NSW Higher School Certificate results will be based on:

- **an assessment mark submitted by the school and produced in accordance with the Board's requirements for the internal assessment program.**
- **an examination mark derived from the HSC external examinations.**

Results will be reported using a course report containing a performance scale with bands describing standards of achievement in the course.

The use of both internal assessment and external examinations of student achievement allows measures and observations to be made at several points

and in different ways throughout the HSC course. Taken together, the external examinations and internal assessment marks provide a valid and reliable assessment of the achievement of the knowledge, understanding and skills described for each course.

Standards Referencing and the HSC Examination

The Board of Studies will adopt a standards-referenced approach to assessing and reporting student achievement in the Higher School Certificate examination.

The standards in the HSC are:

- the knowledge, skills and understanding expected to be learned by students – the *syllabus standards*
- the levels of achievement of the knowledge, skills and understanding – the *performance standards*.

Both *syllabus standards* and *performance standards* are based on the aims, objectives, outcomes and content of a course. Together they specify what is to be learnt and how well it is to be achieved.

Teacher understanding of standards comes from the set of aims, objectives, outcomes and content in each syllabus together with:

- the performance descriptions that summarise the different levels of performance of the course outcomes
- HSC examination papers and marking guidelines
- samples of students' achievement on assessment and examination tasks.

12.2Internal Assessment

The internal assessment mark submitted by the school will provide a summation of each student's achievements measured at points throughout the course. It should reflect the rank order of students and relative differences between students' achievements.

Internal assessment provides a measure of a student's achievement based on a wider range of syllabus content and outcomes than may be covered by the external examination alone.

The assessment components, weightings and task requirements to be applied to internal assessment are identified on page 33. They ensure a common focus for internal assessment in the course across schools, while allowing for flexibility in the design of tasks. A variety of tasks should be used to give students the opportunity to demonstrate outcomes in different ways and to improve the validity and reliability of the assessment.

12.3 External Examinations

In Food Technology Stage 6 the external examinations include written papers for external marking. The specifications for the examination in Food Technology Stage 6 are on page 35.

The external examination provides a measure of student achievement in a range of syllabus outcomes that can be reliably measured in an examination setting.

The external examination and its marking and reporting will relate to syllabus standards by:

- providing clear links to syllabus outcomes
- enabling students to demonstrate the levels of achievement outlined in the course performance scale
- applying marking guidelines based on established criteria.

12.4 Board Requirements for the Internal Assessment Mark in Board Developed Courses

For each course, the Board requires schools to submit an assessment mark for each candidate.

The collection of information for the HSC internal assessment mark must not begin prior to the completion of the Preliminary course.

The Board requires that the assessment tasks used to determine the internal assessment mark must comply with the components, weightings and types of tasks specified in the table on page 33.

Schools are required to develop an internal assessment program which:

- specifies the various assessment tasks and the weightings allocated to each task
- provides a schedule of the tasks designed for the whole course.

The school must also develop and implement procedures to:

- inform students in writing of the assessment requirements for each course before the commencement of the HSC course
- ensure that students are given adequate written notice of the nature and timing of assessment tasks
- provide meaningful feedback on students' performance in all assessment tasks
- maintain records of marks awarded to each student for all assessment tasks
- address issues relating to illness, misadventure and malpractice in assessment tasks
- address issues relating to late submission and non-completion of assessment tasks
- advise students in writing if they are not meeting the assessment requirements in a course and indicate what is necessary to enable the students to satisfy the requirements

- ~~inform students about their entitlements to school reviews and appeals to the Board~~
- ~~conduct school reviews of assessments when requested by students~~
- ~~ensure that students are aware that they can collect their Rank Order Advice at the end of the external examinations at their school.~~

12.5 Assessment Components, Weightings and Tasks

Assessment should include a range of tasks.

Preliminary Course

The suggested components, weightings and tasks for the Preliminary course are set out below.

Assessment Components	*Weighting*	*Tasks*
knowledge and understanding about food availability and selection, food quality and nutrition *research, analysis and communication* *experimentation and preparation* *design, implementation and evaluation*	*20%* *30%* *30%* *20%*	*Tasks may include:* *food preparation and presentation exercises* *experiments* *research assignments* *debates* *oral presentations* *case studies* *industry reports*

HSC Course

The internal assessment mark for Food Technology Stage 6 is to be based on the HSC course only. Final assessment should be based on a range and balance of assessment tasks.

Assessment Components	Weighting	Tasks
knowledge and understanding about the Australian food industry, food manufacture, food product development and contemporary food issues (either nutrition or marketplace) research, analysis and communication experimentation and preparation design, implementation and evaluation	20% 30% 30% 20%	*Tasks may include:* *food preparation and presentation exercises* *experiments* *research assignments* *debates* *oral presentations* *case studies* *industry reports*

While the allocation of weightings to the various tasks set for the HSC course is left to individual schools, the percentages allocated to each assessment component must be maintained. One task may be used to assess several components. It is suggested that 3–5 tasks are sufficient to assess the HSC course outcomes.

12.6 Summary of Internal and External Assessment

Internal Assessment	Weighting	External Examination	Weighting
Knowledge and understanding about the Australian food industry, food manufacture, food product development and contemporary food issues (nutrition or marketplace) Research, analysis and communication Experimentation and preparation Design, implementation and evaluation	20% 30% 30% 20%	**Core** The Australian Food Industry multiple-choice short structured items **Food Manufacture, Food Product Development** multiple-choice short structured items extended structured response **Options** Contemporary Food Nutrition Issues: Nutrition short structured items extended response OR Contemporary Food Issues: Marketplace extended response short structured items	15% 30% 30% 25%
	100%		100%

12.7 HSC External Examination Specifications

Time allowed: 3 hours (plus 5 minutes reading time)

The paper is divided into 4 sections.

Section I *(10 marks)*
- There will be 10 multiple-choice questions.
- All questions will be compulsory.
- Questions will be based on the core strands: The Australian Food Industry, Food Manufacture and Food Product Development.
- All questions must be answered on the answer sheet provided.

Section II *(55 marks)*
- There will be FIVE questions, one on each of the core stands: The Australian Food Industry, Food Manufacture and Food Product Development and the two Contemporary Food Issues options: Nutrition and Marketplace.
- Questions 11, 12 and 13 will be compulsory and will be worth 15 marks each.
- Candidates must attempt either Question 14 or Question 15. These questions will be worth 10 marks each.
- All questions will consist of a number of parts.
- All questions must be answered on the examination paper in the space provided.

Section III *(20 marks)*
- There will be TWO questions, one question on each of the following core strands: Food Manufacture and Food Product Development.
- Candidates must attempt ONE question only.
- Each question will be of equal value.
- Each question will require an extended structured response.
- The question must be answered in a separate answer booklet.

Section IV *(15 marks)*
- There will be FOUR questions, two on each of the Contemporary Food Nutrition Issues options: Nutrition and Marketplace.
- Candidates must attempt ONE question only.
- Each question will be of equal value.
- Each question will require an extended response.
- The question must be answered in a separate answer booklet.

12.8 Reporting Student Performance against Standards

Student performance in an HSC course will be reported against standards on a course report. The course report contains a performance scale for the course describing levels (bands) of achievement, an HSC examination mark and the internal assessment mark. It will also show, graphically, the statewide distribution of examination marks of all students in the course.

Each band on the performance scale (except for band 1), includes descriptions that summarise the attainments typically demonstrated in that band.

The distribution of marks will be determined by students' performances against the standards and not scaled to a predetermined pattern of marks.