

B O A R D O F S T U D I E S
N E W S O U T H W A L E S

Food Technology

Stage 6

Syllabus

Original published version updated:

April 2000 – Board Bulletin/Official Notices Vol 9 No 2 (BOS 13/00)

The Board of Studies owns the copyright on all syllabuses. Schools may reproduce this syllabus in part or in full for bona fide study or classroom purposes only. Acknowledgement of the Board of Studies copyright must be included on any reproductions. Students may copy reasonable portions of the syllabus for the purpose of research or study. Any other use of this syllabus must be referred to the Copyright Officer, Board of Studies NSW. Ph: (02) 9367 8111; fax: (02) 9279 1482.

Material on p 5 from *Securing Their Future* © NSW Government 1997.

© Board of Studies NSW 1999

Published by
Board of Studies NSW
GPO Box 5300
Sydney NSW 2001
Australia

Tel: (02) 9367 8111

Internet: <http://www.boardofstudies.nsw.edu.au>

ISBN 0 7313 4305 0

99162B

Contents

1	The Higher School Certificate Program of Study	5
2	Rationale for Food Technology in the Stage 6 Curriculum.....	6
3	Continuum of Learning for Food Technology Stage 6 Students	7
4	Aim.....	8
5	Objectives	8
6	Course Structure.....	9
7	Objectives and Outcomes.....	10
	7.1 Table of Objectives and Outcomes	10
	7.2 Key Competencies	11
8	Content: Food Technology Stage 6 Preliminary Course	12
	8.1 Food Availability and Selection	12
	8.2 Food Quality.....	14
	8.3 Nutrition	16
9	Content: Food Technology Stage 6 HSC Course	18
	9.1 The Australian Food Industry.....	18
	9.2 Food Manufacture	20
	9.3 Food Product Development.....	22
	9.4 Option Strand: Contemporary Food Issues – Nutrition.....	24
	9.5 Option Strand: Contemporary Food Issues – Marketplace.....	26
10	Course Requirements	28
11	Post-school Opportunities	29
	11.1 Recognition of Student Achievement in Vocational Education and Training (VET).....	29
12	Assessment and Reporting.....	30
	12.1 Requirements and Advice.....	30
	12.2 Internal Assessment.....	31
	12.3 External Examinations.....	31
	12.4 Board Requirements for the Internal Assessment Mark in Board Developed Courses	32
	12.5 Assessment Components, Weightings and Tasks.....	33
	12.6 Summary of Internal and External Assessment.....	34
	12.7 HSC External Examination Specifications	35
	12.8 Reporting Student Performance against Standards.....	36

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.

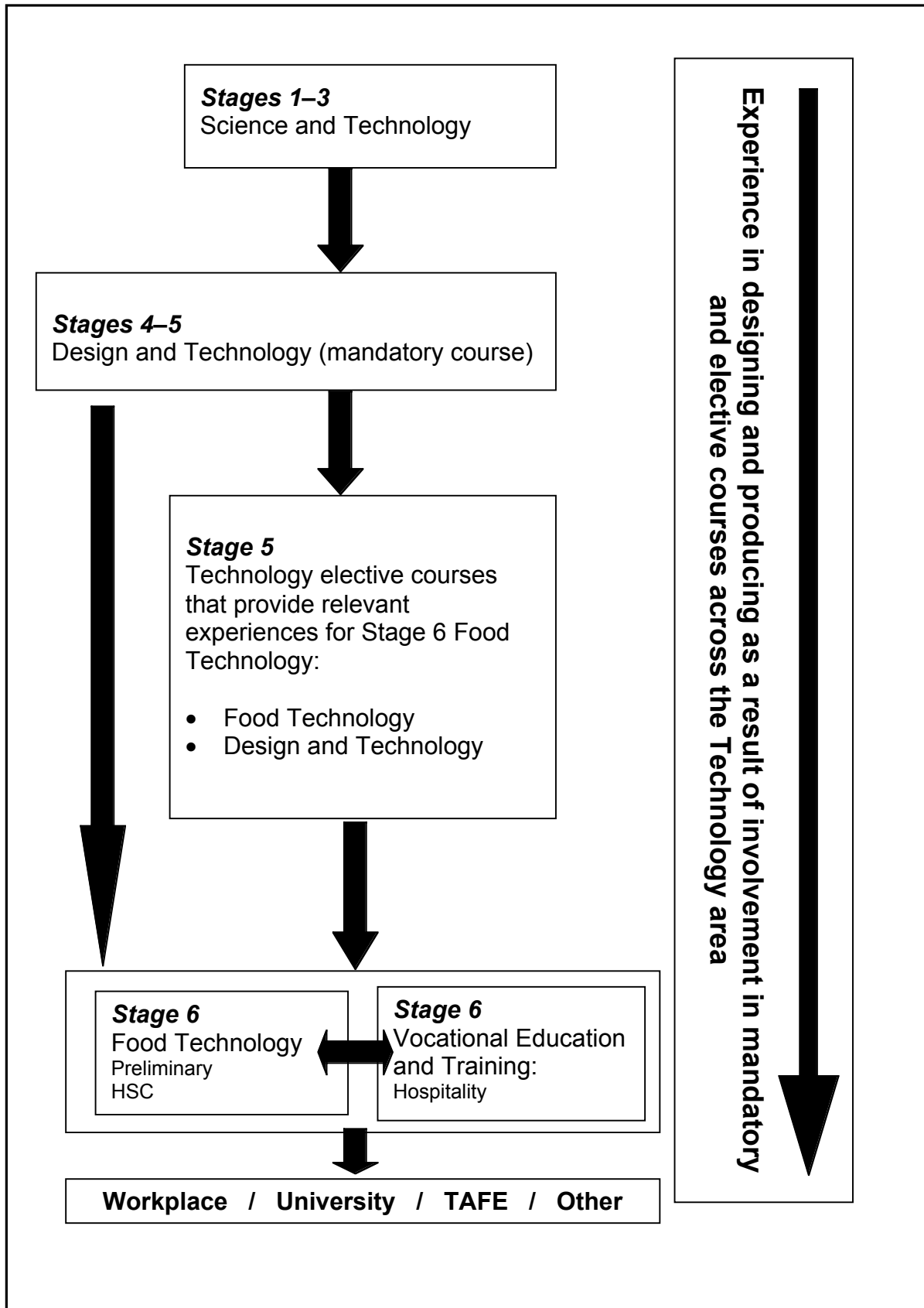
The syllabus provides students with a broad knowledge of food technology. The factors that influence food availability and selection are examined and current food consumption patterns in Australia investigated. Food handling is addressed with emphasis on ensuring safety and managing the sensory characteristics 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 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
<p style="text-align: center;">Core strands (100% total)</p> <p>Food Availability and Selection (30%)</p> <ul style="list-style-type: none"> • Influences on food availability • Factors affecting food selection <p>Food Quality (40%)</p> <ul style="list-style-type: none"> • Safe storage of food • Safe preparation and presentation of food • Sensory characteristics of food • Functional properties of food <p>Nutrition (30%)</p> <ul style="list-style-type: none"> • Food nutrients • Diets for optimum nutrition 	<p style="text-align: center;">Core strands (75% total)</p> <p>The Australian Food Industry (15%)</p> <ul style="list-style-type: none"> • Sectors of the AFI • Aspects of the AFI • Policy and legislation <p>Food Manufacture (30%)</p> <ul style="list-style-type: none"> • Production and processing of food • Preservation • Packaging, storage and distribution • Impact of food manufacturing technologies <p>Food Product Development (30%)</p> <ul style="list-style-type: none"> • Factors which impact on food product development • Reasons for and types of food product development • Steps in food product development • Marketing plans <p style="text-align: center;">Option strands (25% total)</p> <p>Select one of the following options:</p> <p>Contemporary Food Issues: Nutrition (25%)</p> <ul style="list-style-type: none"> • Diet and health in Australia • Influences on nutritional status <p style="text-align: center;">OR</p> <p>Contemporary Food Issues: Marketplace (25%)</p> <ul style="list-style-type: none"> • Trends in the marketplace • Implications of marketplace trends

7 Objectives and Outcomes

7.1 Table of Objectives and Outcomes

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

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:
<p>Influences on food availability</p> <ul style="list-style-type: none"> • historical changes to the availability of food, including: <ul style="list-style-type: none"> – global migration of cultural groups – use of foods native to Australia • technological developments influential on food availability, including: <ul style="list-style-type: none"> – production and manufacturing processes and equipment techniques – storage and distribution techniques – marketplace practices • social, economic and political influences on food availability, including: <ul style="list-style-type: none"> – effects of poverty and affluence – type and state of the economy – government policy, eg taxation, tariffs, embargoes, subsidies, war, export strategies <p>Factors affecting food selection</p> <ul style="list-style-type: none"> • physiological factors, including: <ul style="list-style-type: none"> – hunger, appetite, satiety – nutritional requirements, eg age, gender, size, activity level – reactions to food, eg appearance, odour, taste, allergy • psychological factors, including: <ul style="list-style-type: none"> – values, beliefs, habits, attitudes, emotions, self-concept, experiences • social factors, including: <ul style="list-style-type: none"> – traditions and culture – lifestyle, eg employment, education, household structures, roles, geographic location, interests – social interaction, eg peer group, family hospitality – media • economic factors, including: <ul style="list-style-type: none"> – the marketplace (retail and purchasing practices) – resource availability such as food processing equipment and food preparation skills – occupation and finances 	<ul style="list-style-type: none"> • outline the historical changes to food availability in Australia <ul style="list-style-type: none"> • explain how various factors influence selection of food by individuals and groups • prepare foods that reflect various factors influencing food selection • investigate current food consumption and expenditure patterns in Australia • analyse the eating patterns of a selected group to identify influences on food selection

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:
<p>Safe storage of food</p> <ul style="list-style-type: none"> • methods of storing foods to maintain quality such as dry storage, cold storage and freezing <p>Safe preparation and presentation of food</p> <ul style="list-style-type: none"> • equipment and utensils to produce quality food products across a range of settings • safe and hygienic work practices when handling food • preparation methods to produce food products across a range of settings • layout of food for visual appeal, including styling for photography and plating for service <p>Sensory characteristics of food</p> <ul style="list-style-type: none"> • sensory characteristics of foods, including appearance, odour, taste (flavour) and texture (mouth feel) • sensory assessment of a variety of foods <p>Functional properties of food</p> <ul style="list-style-type: none"> • functional properties of food, including: <ul style="list-style-type: none"> – 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 • factors that affect the functional properties of food, including: <ul style="list-style-type: none"> – oxygen – temperature – acidity – agitation – enzymes – addition of other ingredients 	<ul style="list-style-type: none"> • describe methods of storing foods to maintain sensory characteristics and ensure safety • select appropriate equipment and utensils to produce quality food products across a range of settings • implement safe and hygienic work practices when handling food • select and apply suitable preparation methods to produce quality food products and plate meals for service across a range of settings • style foods for photography • identify sensory characteristics that constitute quality in a variety of foods • evaluate the appeal of foods using sensory assessment • explain some of the functional properties of food • identify the factors that affect the functional properties of food • 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:
<p>Food nutrients</p> <ul style="list-style-type: none"> • food nutrients: carbohydrates, proteins, lipids, vitamins, minerals and water • structure of carbohydrates, proteins and lipids • sources of carbohydrates, proteins, lipids, vitamins, minerals and water • functions of carbohydrates, proteins, lipids, vitamins, minerals and water in the body • significant interrelationships between nutrients, including: <ul style="list-style-type: none"> – 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 • digestion, absorption and metabolism of food <p>Diets for optimum nutrition</p> <ul style="list-style-type: none"> • nutritional requirements throughout the life cycle • current food selection guides and nutritional information that assist in planning and evaluating meals/diets • preparation techniques to produce nutritious foods 	<ul style="list-style-type: none"> • identify food nutrients • identify types of carbohydrates, proteins, lipids and vitamins • identify the nutrient composition of various foods • explain the functions of food nutrients in human nutrition • combine foods to demonstrate nutritionally beneficial interrelationships between foods • describe the process of digestion, absorption and metabolism of food • 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 • select foods to provide a balanced intake of nutrients for particular individuals and groups to meet a variety of nutritional needs • 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

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

Students learn about:	Students learn to:
<p>Sectors of the Australian food industry</p> <ul style="list-style-type: none"> • sectors of the agri-food chain in the Australian food industry, including agriculture and fisheries, food processing/manufacturing, food service and catering, food retail <p>Aspects of the Australian food industry</p> <ul style="list-style-type: none"> • operation of organisations within the Australian food industry with particular attention to: <ul style="list-style-type: none"> – levels of operation and mechanisation, including household, small business, large companies, multinationals – research and development – quality assurance – consumer influences – impact on the environment, economy, society – career opportunities and working conditions <p>Policy and legislation</p> <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • identify sectors within the Australian food industry and investigate recent developments in one specific sector • describe the activities carried out in one organisation within the food industry • identify 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 manufacturing processes and their social and ecological impact engenders informed 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:
<p>Production and processing of food</p> <ul style="list-style-type: none"> • quality and quantity control in the selection of raw materials for food processing • role of food additives in the manufacturing process • characteristics of equipment used in different types of production and the factors influencing their selection • 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 	<ul style="list-style-type: none"> • describe processes that transform raw materials into manufactured food products • compare the processing techniques, equipment, storage and distribution systems used in industry with those used domestically • identify critical control points and describe quality control procedures in food production systems • identify food safety hazards and risks

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:
<p>Factors which impact on food product development</p> <ul style="list-style-type: none"> ● external factors (macro-environment) that impact on food product development, including the: <ul style="list-style-type: none"> – economic environment – political environment – ecological environment – technological environment ● internal factors (micro-environment) that impact on food product development, including: <ul style="list-style-type: none"> – personnel expertise – production facilities – financial position – company image <p>Reasons for and types of food product development</p> <ul style="list-style-type: none"> ● drivers of the development of food products: <ul style="list-style-type: none"> – market concerns such as health and the environment – consumer demands such as convenience and cost – 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: <ul style="list-style-type: none"> – line extensions – me toos – new to world <p>Steps in food product development</p> <ul style="list-style-type: none"> ● design brief based on project aims and development criteria: <ul style="list-style-type: none"> – 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 <p>Marketing plans</p> <ul style="list-style-type: none"> ● product planning ● price structure ● place and distribution system ● promotional program 	<ul style="list-style-type: none"> ● 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 ● identify different types of food products on the market ● develop a product that meets a consumer need ● plan suitable strategies for the marketing of a specific food product

9.4 Option Strand: Contemporary Food Issues – Nutrition

The decisions people make have social, economic, health and environmental consequences. Raising, investigating and debating contemporary food 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 issues
- H5.1 develops, realises and evaluates solutions for a range of food situations.

Students learn about:	Students learn to:
<p>Diet and health in Australia</p> <ul style="list-style-type: none"> • physical effects and economic costs of malnutrition (under and over nutrition) and diet related disorders • nutritional considerations for specific groups • the production/manufacture of nutritionally modified foods to meet consumer demand • the role of ‘active non-nutrients’ in the diet, eg phytochemicals, probiotics and fibre • the role of supplements in the diet, eg vitamins, minerals, protein • the role of the individual, community groups, the food industry, government organisations and private agencies in promoting health <p>Influences on nutritional status</p> <ul style="list-style-type: none"> • health and the effect of heredity and role of diet in the development of conditions, including diabetes, cardiovascular disease, food sensitivity/intolerance/allergies • media and the impact of advertising practices on food consumption such as the promotion of ‘health’ foods and ‘fast’ foods • lifestyle and the effect of cultural and social practices such as food taboos and levels of physical activity 	<ul style="list-style-type: none"> • explain the consequences of malnutrition • independently investigate and report on the health of a group in Australia. Develop a strategy to promote optimum health through good nutrition for this group • discuss the relationship between nutritionally modified foods and health • discuss the role of ‘active non-nutrients’ in the diet • debate the value of dietary supplements in a balanced diet • describe the relationship between nutrient intake and dietary disorders • explain how advertising may influence attitudes towards foods and body image • 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:
<p>Trends in the marketplace</p> <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • ownership concentration in the food industry, eg multinational food companies <ul style="list-style-type: none"> • globalisation of the food trade, eg trade agreements <p>Implications of marketplace trends</p> <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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 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

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.

12.2 Internal 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
<ul style="list-style-type: none"> knowledge and understanding about food availability and selection, food quality and nutrition 	20%	Tasks may include: <ul style="list-style-type: none"> food preparation and presentation exercises experiments research assignments debates oral presentations case studies industry reports
<ul style="list-style-type: none"> research, analysis and communication 	30%	
<ul style="list-style-type: none"> experimentation and preparation 	30%	
<ul style="list-style-type: none"> design, implementation and evaluation 	20%	

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
<ul style="list-style-type: none"> knowledge and understanding about the Australian food industry, food manufacture, food product development and contemporary food issues (either nutrition or marketplace) 	20%	Tasks may include: <ul style="list-style-type: none"> food preparation and presentation exercises experiments research assignments debates oral presentations case studies industry reports
<ul style="list-style-type: none"> research, analysis and communication 	30%	
<ul style="list-style-type: none"> experimentation and preparation 	30%	
<ul style="list-style-type: none"> design, implementation and evaluation 	20%	

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
<ul style="list-style-type: none"> Knowledge and understanding about the Australian food industry, food manufacture, food product development and contemporary food issues (nutrition or marketplace) 	20%	Core The Australian Food Industry <ul style="list-style-type: none"> multiple-choice short structured items 	15%
<ul style="list-style-type: none"> Research, analysis and communication 	30%	Food Manufacture, Food Product Development <ul style="list-style-type: none"> multiple-choice short structured items extended structured response 	30%
<ul style="list-style-type: none"> Experimentation and preparation 	30%		
<ul style="list-style-type: none"> Design, implementation and evaluation 	20%	Options Contemporary Food Issues: Nutrition <ul style="list-style-type: none"> short structured items extended response OR Contemporary Food Issues: Marketplace <ul style="list-style-type: none"> extended response short structured items 	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 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.