

Summary of subject outline changes for 2024

Introduction

Subject outlines with editorial changes for 2024 will be published online in early 2024. The changes are described below.

Changes are made to the subject outlines on the basis of:

- removing ambiguity and improving consistency
- updating information
- removing potential tripwires for students.

Subject outlines with editorial changes for 2024 are listed below.

- Accounting (Stage 2)
- Drama (Stage 2)
- English as an Additional Language (Stage 2)
- Food and Hospitality (Stage 1 and Stage 2)
- General Mathematics (Stage 2)
- Nutrition (Stage 2)
- Psychology (Stage 2)
- Scientific Studies (Stage 1)
- Visual Arts – Art and Visual Arts – Design (Stage 1 and Stage 2)

Schools should ensure they are using the published subject outline for 2024 for all teaching, learning, and assessment in all subjects.

Accounting (Stage 2)

This subject outline is presented as web content. These changes will be made to the subject outline in January 2024.

Assessment Type 3: Examination

Remove the words 'approximately 50%' from *Section 1: Application of accounting skills (approximately 50%)* and from *Section 2: Accounting for decision-making (approximately 50%)*.

Drama (Stage 2)

This subject outline is presented as web content. These changes will be made to the subject outline in January 2024.

Assessment Type 2: Evaluation and Creativity

Paragraph 5 to read:

The second task (or part-task) should focus on creating drama. It may be linked to the study of the shared text and dramatic styles explored and analysed during Exploration and Vision, or to another text and style(s), or it can be self-devised. **The chosen texts must be different from the texts produced by the students in the group production; however, they may be written by the same authors and may involve the same dramatic styles.** In this task, each student is encouraged to take creative risks and to experiment while imagining, conceiving, and developing a hypothetical creative outcome.

English as an Additional Language (Stage 2)

This subject outline is presented as web content. These changes will be made to the subject outline in January 2024.

Assessment Type 3: Examination

Minor change to wording to better reflect the structure of the online exam.

Part A

Reword to read:

'The text will be heard twice. There will be no set pause times before or after the listening text. Students can spend as much or little time on the answers as needed'.

Part B

Reword to read:

For Part B, students analyse two texts. One of these texts will have an aural component (e.g. excerpt from a radio broadcast, recording of an interview, aural advertisement) or an aural and visual component (e.g. film trailer, television interview, video recording of a lecture . . .)

Second paragraph, reword to read:

'The listening text(s) will be heard twice. There will be no set pause times before or after the listening text(s). Students can spend as much or as little time on the answers as needed'.

Section 2: Written paper

Rename 'Extended response', for consistency of language in the e-examination.

Food and Hospitality (Stage 1 and Stage 2)

The updated subject outline will be available in January 2024.

Minor changes to pp.7, 8, 23, and 24.

Stage 1

Area of Study 1: Food, the Individual, and the Family (p.7)

- factors that influence food choices (e.g. class, race, culture, gender, age, religion, poverty, and the media)(e.g. culture, religion, age, gender, race, economic factors, advertising and marketing strategies, ethical and/or environmental influences)
- food allergies, **intolerances** and dietary restrictions in relation to children and adults.

Area of Study 2: Local and Global Issues in Food and Hospitality

- issues in **local and national** food production and/or preparation
- legal and environmental aspects of food production and marketing

Two additional suggested topics:

- legal aspects of food production and marketing
- environmental aspects of food production and marketing
- . . .
- sustainable practices in **food selection** and preparation

Area of Study 3: Trends in Food and Culture

New suggested topic:

- the use of native Australian food ingredients in food and hospitality.

Area of Study 5: Food and Hospitality Industry (p.8)

- possible pathways to employment, enterprise, or entrepreneurial ventures

Stage 2

Area of Study 1: Contemporary and Future Issues (p.23)

Additional suggested topics:

- current, new, or emerging food movements and their impact on the food and hospitality industry
- the impact of trends in elements of food plating and/or presentation in the food and hospitality industry.

Area of Study 4: Sociocultural Influences (p.24)

- the changing image **and/or nature** of Australian cuisine and its impact on the food and hospitality industry

Additional suggested topic:

- the impact of the influence and use of native Australian food ingredients within the food and hospitality industry

General Mathematics (Stage 2)

The updated subject outline will be available in January 2024.

Subtopic 5.1: Critical path analysis (p.29)

The addition of new wording and a diagram better clarifies the calculation of slack time for discrete models.

For which of the tasks is it critical that there is no delay?

- Forward and backward scan
- Minimum completion time
- Critical path
- Earliest and latest starting times for individual tasks
- Slack time

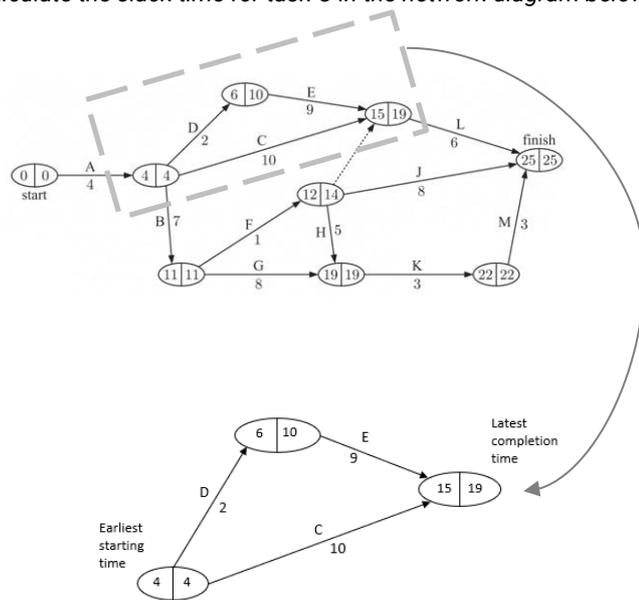
Once a network representation is available for a problem, students can determine the minimum completion time and critical jobs (optimal solution) by finding the longest path through the network. They discuss the amount of leeway available in the starting time for a given job in the network, and what happens if time for a specific job is shortened or lengthened. They look for ways of reducing the minimum completion time in the context of a specific problem. Students discuss the reasonableness of their results and any limitations to the model in the context of the problem.

When calculating slack time, the following formula is used:

Slack time = Latest completion time – (task time + earliest starting time).

Example:

Calculate the slack time for task C in the network diagram below:



$$\text{Slack time} = 19 - (10+4) = 5 \text{ units}$$

Nutrition (Stage 2)

The updated subject outline will be available in January 2024.

Content

pp.13–18: Topic 1: Principles of nutrition, physiology, and health

For clarity and currency some additional context and guidance has been added to the 'Nutrition understandings', and 'possible context' table. Changes are shown in bold text below.

Topic 1: Principles of nutrition, physiology, and health

Students analyse the impact of diet on health and wellbeing throughout the life cycle. They develop the skills to explore the nature of diet-related disorders while exploring links with the biochemistry of nutrients: their structure, function, and interaction. The study of the digestive system will generate discussion about the influence of the microbiome on health and malabsorption syndromes. Students analyse and evaluate data and scenarios and provide solutions to complex problems requiring analysis.

Students:

- understand the biochemistry of nutrients: their structure, function, and interaction
- understand the nature of diet-related disorders
- understand the digestive system
- understand the impact of diet on health and wellbeing throughout the life cycle
- analyse and evaluate data and scenarios.

Nutrition Understanding	Possible contexts	
<ul style="list-style-type: none"> • Macronutrients (proteins, carbohydrates and lipids) are consumed daily and contribute to energy intake. Calculate total energy content of foods in kJ and percentage of energy from macronutrients, alcohol and water, using the following energy values: <ul style="list-style-type: none"> ♦ proteins, 16.7 kJ per gram ♦ carbohydrates, 16.7 kJ per gram ♦ lipids (fats), 37.7 kJ per gram ♦ alcohol, 29.3 kJ per gram ♦ water, 0 kJ per gram. • Compare energy intake from a macronutrient as a percentage of the total energy content with the Acceptable Macronutrient Distribution Range (AMDR): <ul style="list-style-type: none"> ♦ 20 – 35% from fats ♦ 45 – 65% from carbohydrates ♦ 15 – 25% from proteins <p>Daily energy needs are affected by a range of dietary, lifestyle and health factors.</p> <p>The energy required to maintain essential bodily functions when in a fasting and resting state is known as the basal metabolic rate (BMR).</p> <ul style="list-style-type: none"> • Calculate the BMR for males, using: <ul style="list-style-type: none"> ♦ $BMR (kJ) = Body\ weight (kg) \times 1.0 \times 24\ hours \times 4.2$ • Calculate the BMR for females, using: <ul style="list-style-type: none"> ♦ $BMR (kJ) = Body\ weight (kg) \times 0.9 \times 24\ hours \times 4.2$ • Explain factors that can affect an individual's basal metabolic rate (BMR) <p>Energy required by the body to digest, absorb and metabolise the nutrients consumed is estimated to be 10% of the</p>	<p>Explain why hydration and macronutrients are important to human health.</p> <p>Determine the energy (kJ) provided and the percentage of one or more macronutrients provided from a lunchbox or a meal.</p> <p>Investigate the energy provided by each macronutrient of a specific food (e.g. a meat pie) to compare with the nutrition information panel to assess the accuracy of this information.</p> <p>Compare the basal metabolic rate (BMRs) of females and males. Determine the factors that make them different.</p> <p>Explain and calculate, using a case study, the estimated energy requirement (EER) of a person.</p> <p>Research statistics to determine the average macronutrient distribution range for different ages and genders.</p> <p>Compare, using a case study, the RDI, EAR, AI, and UL of different nutrients consumed over a 24-hour period.</p>	

Nutrition Understanding	Possible contexts	
<p>daily energy intake, and is known as the thermic effect of food (TEF).</p> <ul style="list-style-type: none"> • Calculate the thermic effect of food using energy intake values <p>The estimated energy expenditure (EEE) is the total amount of energy used in the body every day.</p> <ul style="list-style-type: none"> • Calculate the EEE, using: <ul style="list-style-type: none"> ♦ $EEE (kJ) = BMR (kJ) + TEF (kJ) + \text{energy expended through physical activity (kJ)}$ <p>A neutral energy balance is achieved when an individual's total energy intake is equal to their estimated energy expenditure.</p> <ul style="list-style-type: none"> • Calculate the energy balance for an individual, using: <ul style="list-style-type: none"> ♦ $\text{Energy balance (kJ)} = \text{daily energy intake (kJ)} - \text{daily estimated energy expenditure (EEE) (kJ)}$ • Explain how a sustained change in energy balance could affect an individual's weight <p>Nutrient reference values (NRVs) provide recommendations of nutritional intake based on current nutrition research.</p> <ul style="list-style-type: none"> • Explain how different nutrient reference values support a healthy nutrition intake: <ul style="list-style-type: none"> ♦ recommended daily intake (RDI) ♦ estimated average requirement (EAR) ♦ adequate intake (AI) ♦ tolerable upper intake level (UL) ♦ estimated energy requirement (EER). 		
<p>Digestion and metabolism of food influences the absorption and use of nutrients.</p> <ul style="list-style-type: none"> • Identify organs involved in the ingestion and digestion of food/fluids along the gastrointestinal tract, and describe their function: <ul style="list-style-type: none"> ♦ mouth ♦ salivary glands ♦ oesophagus ♦ stomach ♦ liver ♦ gall bladder ♦ pancreas ♦ small intestine ♦ large intestine ♦ rectum ♦ anus 	<p>Illustrate and explain the structure and function of the primary and secondary organs of the digestive system.</p> <p>Explore the digestion of different foods containing different macronutrients.</p> <p>Compare the absorption of the products of digestion in the villi and the digestive system.</p> <p>Describe the chemical processes related to metabolism and release of energy.</p> <p>Explore the different malabsorption syndromes of coeliac disease and lactose intolerance in different populations.</p>	
	<p>Demonstrate the emulsifying action of bile by using oil, water, and detergent.</p>	

Nutrition Understanding	Possible contexts	
<ul style="list-style-type: none"> • Explain the chemical digestion of macronutrients into their products by specific enzymes: <ul style="list-style-type: none"> ♦ salivary amylase in the mouth ♦ gastric pepsin in the stomach ♦ pancreatic amylase, trypsin and lipase in the small intestine ♦ sucrase, maltase and lactase in the small intestine • Explain the role of the following processes in mechanical digestion: <ul style="list-style-type: none"> ♦ mastication in the mouth ♦ peristalsis along the gastrointestinal tract ♦ emulsification in the small intestine • Describe the absorption of products of macronutrient digestion in the villi: <ul style="list-style-type: none"> ♦ monosaccharides into the blood ♦ amino acids into the blood ♦ fatty acids and glycerol into lacteal (lymph) <p>The microbiome of the large intestine is critical to digestion and health.</p> <ul style="list-style-type: none"> • Describe the importance of the gut microbiome synthesis of: <ul style="list-style-type: none"> ♦ vitamin K ♦ short chain fatty acids (SCFAs) • Discuss factors that affect gut microbiome diversity: <ul style="list-style-type: none"> ♦ prebiotics ♦ probiotics ♦ infections, including food poisoning ♦ antibiotics 	<p>Conduct an experiment to measure the absorption of iron in varying pH environments, by using dialysis tubing.</p> <p>Explore how the use of antibiotics in food has affected human health.</p> <p>Research the use of different cereals to produce gluten-free bread.</p>	
<p>Lactose intolerance and coeliac disease are factors that can interfere with the absorption of nutrients.</p> <ul style="list-style-type: none"> • Describe the nature, causes, symptoms, management and health consequences of coeliac disease and lactose intolerance 		

Nutrition Understanding	Possible contexts	
<p>Macronutrients have a specific function and structure.</p> <p><i>Proteins</i></p> <p>Proteins are made up of long chains of amino acids</p> <ul style="list-style-type: none"> • Identify the general structure of amino acids • Explain the functional roles of protein as a nutrient • Explain the difference between essential, non-essential, and conditionally essential (e.g. due to infancy, illness, or a vegan diet) amino acids • Identify plant, animal, and novel sources of protein in the diet • Compare the biological value of protein sources, including complete and incomplete proteins 	<p>Explain the function of protein in different parts of the body, such as for muscle growth and repair, hormones, enzymes, and antibodies.</p> <p>Explain nitrogen balance in relation to protein requirements in specific groups, such as athletes, the elderly, or the immunocompromised.</p> <p>Discuss the different types of amino acids (essential, non-essential, and conditional) for different populations, such as vegans and vegetarians.</p>	
	<p>Conduct an experiment to recognise and compare the amount of macronutrients in different foods.</p>	
	<p>Assess the validity of the claim that low-protein, high-carbohydrate diets lead to longer life in humans.</p> <p>Investigate the applications and limitations of lactose-free milk.</p> <p>Investigate the nutrition obtained from edible insects and assess the potential benefits for future populations.</p>	
<p><i>Lipids</i></p> <p>Triglycerides and sterols are two types of lipids. Triglycerides (fats) are made up of glycerol and three fatty acid chains.</p> <ul style="list-style-type: none"> • Identify and compare the general structure and sources of the following fatty acids: <ul style="list-style-type: none"> ♦ saturated ♦ unsaturated ♦ monounsaturated ♦ polyunsaturated ♦ trans fatty acids. • Explain the functional roles of triglycerides as a nutrient 	<p>Compare and describe the structural characteristic differences between saturated, polyunsaturated, monounsaturated and trans fatty acids.</p> <p>Explore the differences between low-density lipoproteins (LDLs) and high-density lipoproteins (HDLs), and their health effects, including dietary diseases.</p> <p>Explore the links between the consumption of saturated fatty acids and obesity, cardiovascular disease (CVD), and hypertension.</p>	
	<p>Investigate the effects of changing the cooking temperature when using monounsaturated fatty acids and saturated fatty acids.</p>	

Nutrition Understanding	Possible contexts	
<p><i>Water and other fluids</i></p> <ul style="list-style-type: none"> • Identify sources of water and other fluids in the diet and explain its function in maintaining good health • Describe the benefits derived from consuming fluids other than water • Explain the factors that affect hydration levels <ul style="list-style-type: none"> ♦ fluid intake ♦ salt intake ♦ exercise ♦ illness ♦ caffeine ♦ alcohol • Describe the effects of dehydration. 	<p>Research food sources from different food groups that are high in water content as an alternative to water.</p> <p>Explain the essential role of water.</p> <p>Determine the adverse effects of a deficiency of water in the diet.</p>	
<p>Micronutrients (vitamins and minerals) are required by the body for good health and for the prevention of many diet-related disorders.</p> <p><i>Vitamins</i></p> <ul style="list-style-type: none"> • Identify sources of fat-soluble and water-soluble vitamins • Explain the effect of cooking techniques on fat-soluble and water-soluble vitamins • Compare fat-soluble and water-soluble vitamins with respect to absorption, transport, storage, toxicity, and excretion. • Explain the functions of the following vitamins: <ul style="list-style-type: none"> ♦ vitamins B1, B2, and B3, for metabolism of macronutrients ♦ vitamin B9 (folate), vitamin B12, vitamin C, and vitamin D, which are all associated with deficiencies and health issues in Australia ♦ vitamin K 	<p>Compare fat-soluble and water-soluble vitamins, with respect to absorption, transport, storage, toxicity, and excretion.</p> <p>Describe how particular vitamins can cause adverse effects in the body and can be considered toxic when consumed above their upper limit.</p> <p>Explain how the bioavailability of different nutrients can be affected when consuming different food sources high in specific vitamins.</p> <p>Explain how vitamins and minerals can have a similar role and function in the body.</p> <p>Describe the functions and food sources for a specific vitamin or mineral.</p> <p>Explore how calcium inhibits iron absorption.</p> <p>Debate the role of dietary supplements of folate in a balanced diet.</p>	
	<p>Investigate different cooking methods (e.g. boiling, steaming, microwaving, frying) to determine the effects on different vitamins.</p>	

Nutrition Understanding	Possible contexts	
<p><i>Minerals</i></p> <ul style="list-style-type: none"> • Identify rich sources of the following minerals and explain their functions in the body: <ul style="list-style-type: none"> ♦ sodium ♦ iron (haem and non-haem) ♦ calcium ♦ potassium ♦ iodine • Explain how a deficiency in iron, calcium and iodine can result in health issues and why specific population groups could be at higher risk of a deficiency. • Explain factors affecting bioavailability and absorption of minerals <ul style="list-style-type: none"> ♦ haem iron vs non-haem iron ♦ caffeine and alcohol consumption • Describe the interrelationship of different micronutrients: <ul style="list-style-type: none"> ♦ vitamin C promotes absorption of non-haem iron ♦ calcium inhibits iron absorption 	<p>Discuss the potential social impacts of deficiencies of vitamins, such as nyctalopia (night blindness), osteoporosis, pellagra, spina bifida, anaemia, rickets, and scurvy, and the effects of these conditions on different populations or groups.</p> <p>Examine the way caffeine (including associated phytates and oxalates) inhibits calcium absorption and the impacts of increasing caffeine consumption.</p>	
<p>Imbalance of nutrient intake is likely to cause diet-related disorders.</p> <ul style="list-style-type: none"> • Describe the signs/symptoms of diet-related disorders • Diet-related health disorders include: <ul style="list-style-type: none"> ♦ the consequences of overnutrition (obesity, cardiovascular disease, type 2 diabetes, hypertension) ♦ the consequences of undernutrition (constipation/diverticulitis, anaemia, osteoporosis, rickets, scurvy, spina bifida). • Explain why specific groups are at increased risk of a diet-related disorder • Explain how a diet-related health disorder could increase the risk of developing a second diet-related health disorder e.g. obesity and cardiovascular disease • The role of diet and lifestyle in the prevention, control, and/or reversal of such disorders. 	<p>Explore different examples of deficiencies of minerals, including osteoporosis and anaemia in different populations.</p> <p>In groups, investigate a diet-related health disorder using the key headings below:</p> <ul style="list-style-type: none"> • definition • risk factors/causes <ul style="list-style-type: none"> ♦ nutrition ♦ lifestyle ♦ genetic • signs/symptoms • strategies to manage and improve through nutrition and lifestyle. <p>In groups, explore ways to modify recipes/diet for any of the diet-related disorders and justify changes.</p> <hr/> <p>Compare the nutrition benefits of different popular diets.</p> <p>Investigate the making of a health biscuit for food drops in times of famine (assess for nutrient value).</p>	<div style="text-align: center;">   </div>

Nutrition Understanding	Possible contexts	
	<p>Using articles, explore contemporary developments in relation to diet-related disorders, such as the rise in scurvy, the increase in bowel cancer among young people, or the increase in vitamin D deficiencies.</p> <p>Discuss the benefits and ethical considerations associated with low-calorie sweeteners and cardiovascular disease.</p>	
<p>Nutrition through the life cycle.</p> <ul style="list-style-type: none"> • Explain why nutrition needs and energy requirements for the different stages of the life cycle. • Explain the factors that determine an individual's physiological need for nutrients (age, gender, body size, activity level). 	<p>In groups, differentiate the nutrition needs across the lifespan of an individual.</p>	
	<p>For a specific individual, investigate their food and beverage consumption over 24 hours and analyse its nutrition content. Suggest and justify appropriate changes, where required.</p>	
	<p>Investigate the applications and limitations of genetic analysis on nutrition health.</p>	

Psychology (Stage 2)

The updated subject outline will be available in January 2024.

Assessment Type 1: Investigations Folio (pp.39-40)

Students undertake:

- at least one psychological investigation, of which one must include deconstruction of a problem and design of a psychological investigation
- one investigation with a focus on science as a human endeavour.

Bold italics denotes the proposed changes to wording for clarity.

Evidence of deconstruction should outline the deconstruction process, the method designed as most appropriate, and a justification of the plan of action, to a maximum of 4 sides of an A4 page. Suggested formats for this evidence include flow charts, concept maps, tables, or notes. This evidence must be attached to the ***practical*** report.

Students may choose to design and/or write their report on either a quantitative or qualitative study.

For each investigation, students present an individual report.

The report should include:

- introduction with relevant psychological concepts, and either a hypothesis and variables, or an investigable question (***if producing a quantitative report***), or ***introduction with relevant psychological concepts and an investigable question, with focus questions to be explored (if producing a qualitative report)***
- ***materials/apparatus***
- the method or process that was implemented
- identification and management of safety and/or ethical risks
- results, including table(s) and/or graph(s)
- analysis of results ***and statistical measures***, including identifying trends and linking results to ***psychological*** concepts (***if producing a quantitative report***), or ***analysis of results, including frequency tables, graphs, and linking results to psychological concepts (if producing a qualitative report)***
- evaluation of ***sample***, procedures and their effect on data, identifying ***strengths, limitations, and*** sources of uncertainty, ***validity, reliability, improvements and ethics***
- a conclusion, with justification.

Only the following sections of the report are included in the word count:

- ***introduction***
- ***analysis of results***
- ***evaluation of procedures***
- ***conclusion and justification***

Suggested formats for presentation of a psychological investigation report include:

- a written report
- an oral presentation
- a multimodal product.

The report should be a maximum of 1500 words if written, or a maximum of 9 minutes for an oral presentation, or the equivalent in multimodal form.

Scientific Studies (Stage 1)

The updated subject outline will be available in January 2024.

The proposed changes are for clarity, currency, and provide additional context and guidance in some of the 'science understandings' and 'possible contexts' tables.

Assessment Type 2: Collaborative Inquiry

p.25 – Collaborative Inquiry Design

Specifications of the personal journal to read:

Students record individually, in a personal journal:

- initial thinking, ideas, and their individual deconstruction of the problem
- evidence of their own contribution to the project and supporting documentation on the group's application of collaborative skills
- representation(s) of the data collected by the group
- analysis and interpretation of the results/outcomes
- connections between results and scientific concepts
- an evaluation of the procedures and their effect on data
- a conclusion with justification and the consideration of possible limitations.

p.26 – Collaborative Inquiry Evaluation

Specifications of the recorded presentation to read:

Students individually evaluate the effectiveness of the group's collaborative skills, when:

- identifying a problem
- deconstructing the problem
- formulating an investigable question, testable hypothesis, or proposed solutions
- identifying variables
- designing appropriate procedures
- collecting data

Evidence is presented in the form of a recorded presentation.

For a 10-credit subject, the evaluation (recorded presentation) should be a maximum of 3 minutes per student if oral or the equivalent if multimodal.

For a 20-credit subject, the evaluation (recorded presentation) should be either a maximum of 3 minutes per student for each of two shorter collaborative inquiries, or a maximum of 5 minutes per student for one longer collaborative inquiry if oral, or the equivalent if multimodal.

Visual Arts – Design (Stage 1) and Visual Arts – Art (Stage 1)

The updated subject outline will be available in January 2024.

Page 11 – Change the following (replacing ‘total of’, with ‘maximum of’):

<i>Current</i>	<i>Proposed change</i>
For a 10-credit subject, as a guide, there should be a total of fifteen A3 sheets...	For a 10-credit subject, the folio should be a maximum of fifteen A3 sheets...
For a 20-credit subject, as a guide, there should be a total of thirty A3 sheets...	For a 20-credit subject, the folio should be a maximum of thirty A3 sheets...

Visual Arts – Design (Stage 2) and Visual Arts – Art (Stage 2)

The updated subject outline will be available in January 2024.

Page 26 – Change the following (replacing ‘total of’, with ‘maximum of’):

<i>Current</i>	<i>Proposed change</i>
For a 10-credit subject, as a guide, there should be a total of twenty A3 sheets...	For a 10-credit subject, the folio should be a maximum of twenty A3 sheets...
For a 20-credit subject, as a guide, there should be a total of forty A3 sheets...	For a 20-credit subject, the folio should be a maximum of forty A3 sheets...