

NUT203 Active Lifestyle Nutrition Assessment Task 2: Case Studies Semester 2, 2019



Task description

For this assessment task you will be presented with four case study scenarios for active individuals seeking dietary advice. You are required to interpret the data presented regarding diet, activity and body composition. All four case studies are to be completed.

Case study 1: Alice, recreational runner.

Case study 2: Gavin, member of the army reserve.

Case study 3: Nik, training for surf rescue certificate.

Case study 4: Lihua, netball pre-game fuel requirements.

Task length and weighting

Overall, the maximum total word count for written responses to case study questions will be no greater than 2000 words (approximately 500 words per case study response excluding tables and references). This task is worth 40% of the final grade for NUT203 Active Lifestyle Nutrition.

Marking criteria

For this assessment task you will be assessed on your ability to (i) correctly evaluate and interpret dietary intake, physical activity data and body composition data; (ii) provide rationale for your interpretation; (iii) utilise appropriate evidence-based guidelines; and (iv) communicate clearly and professionally. See the detailed rubric in the Blackboard assessment folder for further information.

Due date

This task must be submitted online via Blackboard by **10am Tuesday 8th October**. Late submissions will receive a penalty. To apply for a renegotiation of this task, you must contact your course coordinator as soon as possible by email or in person. Course coordinator contact details can be found on your course outline or on Blackboard. Documented evidence in support of the request for an alternate date must be provided and your course coordinator will confirm if your application is successful. To determine if you are eligible to apply, please view the grounds for seeking renegotiation of an assessment due date at Part C Section 7 of [USC Assessment and Coursework procedures](#) for accepted grounds for renegotiation of assessment due dates.

Submission penalties

As per university policy and procedures there is an expectation you will submit by the due date.

Late submission of assessment tasks will be penalised at the following maximum rate:

- 5% (of the assessment task's identified value) per day for the first two days from the date identified as the due date for the assessment task.
- 10% (of the assessment task's identified value) for the third day
- 20% (of the assessment task's identified value) for the fourth day and subsequent days up to and including seven days from the date identified as the due date for the assessment task.
- A result of zero is awarded for an assessment task submitted after seven days from the date identified as the due date for the assessment task.

Weekdays and weekends are included in the calculation of days late.

Format

- Include a title page with your name and student ID.
- Number all pages in the footer and include your student ID on each page in the footer.
- Please use Calibri font with a size of 11 and 1.5 line spacing.
- Clearly and professionally present each case study by showing the requested calculations and written responses. Sub-headings can be used.
- Written responses should be in sentence format, not bullet point. Include the word count of the written response.
- Where tables are required for qualitative assessment, please format as per the example provided in this assessment task outline.
- In each case study, all information sources should be acknowledged. A reference list for each case study should be provided at the end of each case study. The referencing format should be Vancouver. A numeral should be allocated to each source. In-text referencing can use either a superscript numeral **e.g.** the Australian Dietary Guidelines¹ or in round brackets **e.g.** the Australian Dietary Guidelines (1). For further information please refer to the USC Vancouver referencing Guide available on the USC website.



Photo by Matthew LeJune on Unsplash

Case Study 1: Alice

Age: 32 years

Weight: 58 kg

Height: 169.5 cm

Alice works full time at the local primary school where she teaches grade two. She normally walks her dog for 30 minutes most afternoons and swims on a Tuesday and Thursday (light activity level). Six weeks ago, Alice started training for an upcoming 10-kilometre fun run with her work colleagues. She has added three running sessions a week (Monday, Wednesday and Saturday) (moderate activity). Since increasing her training load, Alice has been feeling quite tired and has noticed her clothes are becoming loose. She has not actively been trying to lose weight and four weeks ago her weight was stable at 61kg of which she was happy with. Her doctor has ruled out any medical issues and has asked you to assess her diet to see if she is meeting her energy requirements. Alice eats all foods and enjoys cooking. Her usual diet is reported as:

Breakfast:	1 cup cooked porridge and 1 cup (250mL) reduced fat milk
Snack:	1 latte made with 250mL reduced fat milk, tomato and cucumber slices (75g) on 3 crispbreads
Lunch:	Chicken and salad roll (1 medium bread roll, 40g cooked chicken breast, 1 cup salad vegetables, 1 teaspoon vinegar mixed with ½ teaspoon mustard and 7g olive oil)
Snack:	30g nuts; 1 medium mandarin
Dinner:	150g cooked fish fillet, 7g olive oil; squeeze of lemon juice; ½ cup cooked carrots, ½ cup broccoli; ½ cup bok choy; ½ cup cooked quinoa
Snack:	1 cup tinned peaches and 100g plain yoghurt

Other: Drinks about 1.5L water per day, more on training days. Does not drink alcohol.

Case Study Questions

Calculations:

1. Calculate Alice's weight loss percentage in the last four weeks.
2. Calculate Alice's current and previous body mass index (BMI).
3. Classify Alice's reported diet in comparison to the relevant Foundation Diet (present results in table format below).
4. Use the energy ready reckoner in the Educator Guide to calculate the approximate kilojoules provided by her reported diet.
5. Using the information provided, does Alice require additional kilojoules to the Foundation Diet and if so, how many kilojoules?

Written response:

Using the information provided and your calculations, provide a written summary of Alice's diet in relation to her weight loss and fatigue. In your response, consider the following:

- Comment on why you think Alice is losing weight. What suggestions would you give to Alice regarding her dietary intake? Provide a rationale for your interpretation.

Comparison of Alice's reported diet to the Foundation Diet

		Vegetables and legumes / beans	Fruit	Grain (cereal) foods	Lean meat and poultry, fish, eggs, tofu, nuts, seed and legumes/beans	Milk, yoghurt, cheese and alternatives	Allowance of unsaturated spreads or oils	Discretionary
Foundation Diet								
Reported intake	Breakfast							
	Snack							
	Lunch							
	Snack							
	Dinner							
	Snack							
	Total Serves							

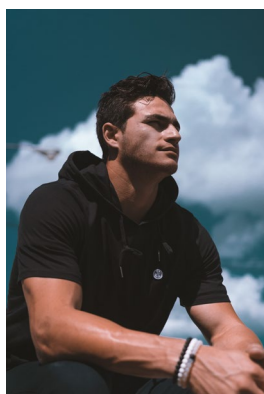


Photo by Yuvraj Singh on Unsplash

Case Study 2: Gavin

Age: 19 years

Weight: 79 kg

Height: 183 cm

Gavin is a mechanic and works at a local garage Monday – Friday. He is also an active member of the army reserve where he works as a vehicle mechanic. His commitment to the reserves is one night a week at the local army barracks. He also attends six training weekends a year and one annual two-week deployment. As an active member of the military, Gavin is required to maintain a level of physical fitness that is tested annually. To keep in shape, he trains regularly at the gym (weights), runs and swims at the local pool (overall moderate activity). At his annual physical he mentioned to the military doctor that he has some issues with mild constipation. The doctor ruled out any medical cause and discussed his diet, in particular dietary fibre and fluid. Gavin has come to you for advice as he thinks his diet is reasonable. He reports his usual intake as:

Breakfast:	60g Rice Bubbles, 1 cup of full cream milk, 2 slices toast (white bread with 10g of polyunsaturated spread and 1 tablespoon jam), 125mL strained orange juice
Snack:	3 plain sweet biscuits and 1 cup of tea (190mL water and 60mL milk)
Lunch:	2 hardboiled eggs mashed on a medium white bread roll 10g of polyunsaturated spread, 125mL apple juice
Snack:	1 tub (200g) plain yoghurt, 300mL water
Dinner:	250g steak (rump) cooked in 7g canola oil, 1 cup plain mashed potato (300g), ½ cup cooked pumpkin and ½ cup cooked cauliflower, 1 cup of tea (190mL water and 60mL milk) 2 slices white bread with 10g polyunsaturated spread
Snack:	1 packet of crisps (60g)
Drinks:	Nil additional to drinks reported above

Foodworks analysis of reported diet:

Total Energy: 11200kJ **Protein:** 153g **Total Fat:** 86g (saturated fat: 28g) **Carbohydrate:** 310g **Dietary Fibre:** 20g **Total water (food and fluids):** 2000g

Case Study Questions

Calculations:

1. Classify Gavin's reported diet and compare this to the Foundation Diet (use table).
2. How much dietary fibre is recommended for Gavin?
3. What is Gavin's approximate estimated fluid requirement?

Comparison of Gavin's reported intake to the Foundation Diet

		Vegetables and legumes / beans	Fruit	Grain (cereal) foods	Lean meat and poultry, fish, eggs, tofu, nuts, seed and legumes/beans	Milk, yoghurt, cheese and alternatives	Allowance of unsaturated spreads or oils	Discretionary
	Foundation Diet							
Reported intake	Breakfast							
	Snack							
	Lunch							
	Snack							
	Dinner							
	Snack							
	Total Serves							

Written Response:

Part 1 Evaluation:

Using the information provided, assess Gavin's dietary intake and create a summary statement that interprets the dietary intake in relation to dietary fibre consumed and its food sources. What dietary advice would you provide in relation to his dietary fibre intake? Provide two specific suggestions for each meal and justify your recommendations. What recommendations would you provide regarding his fluid intake?

Part 2 Follow-up appointment:

After four weeks, Gavin returns to you for a follow up appointment. He states he has been following all your recommendations, however there is no improvement in his bowels. He asks if he should take a laxative. What advice would you give to Gavin?



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Case Study 3: Nik



Age: 29 years

Weight: 93 kg

Height: 185 cm

Waist circumference: 107cm

Nik is recently divorced and living alone. His ex-wife has custody of their 7-year old son Ben. Each weekend Ben stays with Nik and Ben is keen to start nippers at the local surf club. Nik would like to be involved in water safety at nippers but to do this he must complete the surf rescue certificate which requires a standard of fitness. Nik realises he is “out of shape” and has come to you for dietary advice. He thinks he needs to lose weight and would like some help with meal planning. Two weeks ago, he joined an adult swimming squad and is consistently swimming three mornings a week before work with the squad. On swimming days, he swims from 6am-7am (moderate activity) and goes straight to work. He works in an office and is generally sedentary during the day. Nik reports that since starting his new training regime, he has lost approximately 2 kilograms, and reports his current weight is now 93kg. Nik has completed a food diary for the last seven consecutive days (a sample day is shown below). A FoodWorks analysis of the 7-day food diary shows a mean energy intake of approximately 17MJ over the seven-day period. This is comprised of 46% carbohydrate, 10% protein, 31% total fat (of which 60 grams is saturated) and 13% from alcohol.

Breakfast:	Skips because he is either running late for work or swimming. Has an instant coffee made with water and about 30mL of milk
Lunch:	The local bakery has a lunch deal of a beef pie with a 500mL chocolate milk. Once a week he goes with his workmates to the local pub for a counter lunch (steak, fries and Caesar salad plus 2-3 beers)
Dinner:	Varies but is usually take away as he is not often motivated to cook, his usual choices: Kentucky Fried Chicken dinner meal; Dominos meat lovers pizza; pub meal of chicken parmigiana and chips; 4-5 beers.
Snacks:	Salt and vinegar chips (usually when watching television at night); chocolate coated nuts

Case Study Questions

Calculations:

1. Calculate Nik's body mass index.
2. Calculate Nik's waist to height ratio.
3. Using the information provided, calculate the amount (in grams) of each of the contributing macronutrients to his total energy intake.

Written Response:

Using the information provided and your calculations, assess the reported diet with consideration of the following:

1. Given the body composition data presented, interpret Nik's overall disease risk.
2. Comment on the macronutrient distribution of Nik's diet in comparison to the acceptable macronutrient distribution ranges (AMDR).
3. To get Nik started, provide one example of a healthy take-away/convenience meal option for either breakfast, lunch or dinner.
4. What other information would you require from Nik to help him to lose weight and achieve a healthy dietary pattern?



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Case Study 4: Lihua

Age: 20 years

Weight: 68 kg

Height: 170 cm

Lihua is a third year University student studying pharmacy. She lives with her parents and works part time at the local pharmacy as a retail assistant. She also plays competitive netball on Saturday afternoons and has come to you for advice on what to eat pre-game as she has been getting tired during the game. Most weeks the game times are fixed. On those days, approximately three hours before the game, Lihua has a pre-game meal at home of noodles ($\frac{1}{2}$ cup) with tofu (170g) and vegetables (1 cup cooked broccoli) and drinks 250mL of water. However, for weekends when the game times are not fixed, Lihua does not eat before leaving home because she does not want to risk playing on a full stomach. Lihua is vegetarian, she does not include dairy in her diet but does consume eggs.

Case Study Questions

Calculations:

1. Estimate the total amount (grams and kilojoules) each of the macronutrients in the pre-game meal provides.
2. Approximately how much carbohydrate is recommended for consumption before exercise sessions lasting more than 60 minutes?

Written Response:

Using the information provided and your calculations, provide recommendations for Lihua, considering the following:

1. What advice would you give Lihua regarding her current pre-game meal? Would you provide any adjustments to this meal? If so, provide a suggested pre-game meal that may help optimise her performance.
2. What dietary strategies do you suggest for Lihua regarding days that the game timetable is uncertain?
3. What advice would you give her regarding her fluid consumption before the game?