

Assessor Marking Guide

Programme Name	Health and Fitness Coach (Personal Trainer) (Level 4)	
Assessment Number	Assessment 1 of 2	
Assessment Title	Nutrition case studies and research	
Course Number	Course 4	Version 2
Course Title	Nutrition	Level 4 Credit 10

Internal feedback related to design of assessment tools should be submitted via the online Continuous Improvement Form (eCIF).

This assessment leads to the following graduate profile and learning outcomes.

NZQA GPO	Learning Outcome	Task #
GPO 5: Apply a health and wellness framework and evidence-based nutrition principles to support a personalised exercise programme and recommend referral pathways to allied health professionals (10 credits).	4.1: Demonstrate an understanding of how diet and exercise can impact on the success of client outcomes. <i>Contributes 1 GPO credit</i>	Task 1
	4.2: Apply evidence-based nutrition principles to suit client goals and outcomes. <i>Contributes 1 GPO credit</i>	Task 2
	4.3: Demonstrate an understanding of the advantages and disadvantages of common dietary practices. <i>Contributes 2 GPO credits</i>	Task 4
	4.6 Demonstrate an understanding of appropriate referral options for nutritional advice/information. <i>Contributes 1 GPO credit</i>	Task 3

NZQF Level 4 Descriptors	
Knowledge	<ul style="list-style-type: none"> Broad operational and theoretical knowledge in a field of work or study
Skills	<ul style="list-style-type: none"> Select and apply solutions to familiar and sometimes unfamiliar problems. Select and apply a range of standard and nonstandard processes relevant to the field of work or study.
Application	<ul style="list-style-type: none"> Self-management of learning and performance under broad guidance. Some responsibility for performance of others.

ADMINISTRATION

Assessors are required to provide feedback to students:

- Constructive feedback to the student must be documented within assessment evidence. Including where resubmission is required.
- Notes on demonstrated performance and application of skills, knowledge, attributes; future improvement/development planning e.g., task management, study skills; relationship to other programme content and use in career.

Student evidence must be assessed against all specified criteria to meet learning outcomes.

- Any adaption in assessment methods must be documented and attached to the assessment by the assessor (where deemed necessary to be fair and transparent in relation to student's specified needs).
- Assessment Pack Cover should be dated and signed by assessor when the student has received the final result.
- Assessment opportunities must be indicated accurately,
Where any practical criteria are not achieved, an additional practical sheet must be used for reassessment for all practical outcomes and attached to this assessment pack. Refer to Assessment opportunities policy for additional detail.
- The student must sign the post-assessment agreement after receiving final result.
- It is the Assessors responsibility to ensure all relevant documentation is included in the assessment prior to reporting and filing,
- Samples of assessments will be forwarded to internal and/or external parties for moderation as required.

Where appropriate **sample answers and or exemplars** may be included: Sample answers are a guide only providing an example of the sufficiency of quantitative and qualitative evidence the assessor could expect to see.

ASSESSMENT SCHEDULE	
<i>Give feedback to student on successes, for N add a note to the student on here or on their assessment evidence (e.g. in Turnitin) about how to improve for resubmission.</i>	
Task Evidence	Achievement Criteria / Judgement
1	Q1 – 3) Learner has correctly identified Toni's protein needs, fat needs, and estimated calorie requirements
	Q4) Learner has provided 2 pieces of practical nutrition advice that Toni could implement immediately to help her stick within this calorie budget.
	Q5) Learner has provided a clear explanation regarding the term "essential". Learner has identified at least two (2) examples of essential nutrients that Toni may need to be aware of.
	Q6) Learner has provided one piece of practical nutrition advice for how she can achieve her B12, iron, and calcium intakes on a plant-based diet.
	Q7) Learner has provided 4 points outlining the scope of practice of a personal trainer when it comes to nutrition advice.
2	Q8 – 9) Learner has correctly identified the 2 types of fat that James is eating. Learner has listed at least 3 sources of healthy fats and provided 1 substitution idea based on his current diet log.
	Q10) Learner has correctly identified which food group is missing from James's diet. They have also provided 2 practical suggestions for including this in the diet.
	Q11) Learner has correctly identified the macronutrient that is low in James's diet and provided 2 practical suggestions to help increase his intake.
	Q12) Learner has outlined 2 unique issues of James's current eating habits relating to weight, performance, and/or overall health
	Q13) Learner has provided 2 nutrition recommendations for the pre-exercise timeframe including an example and specific timings for each. They have also provided an evidence-based justification.
	Q14) Learner has identified the 2 macronutrients that should be a priority in the post exercise eating window. They have also provided 2 clear examples of how this can be achieved.
	Q15) Learner has correctly identified at least one issue with getting your nutrition information from teammates and has identified an appropriate health professional to refer to.
3	For all 5 case studies the learner has correctly identified the appropriate referral, provided justification of their choice, and identified an appropriate individual and their location
	A. Karen
	B. Carla
	C. Alex
	D. Harry

	E. Megan
4	Learner has met minimum of 500 words in their research task
	Learner has clearly identified and described the diet including the main components or elements of the diet
	An explanation of why someone might be attracted to the diet is provided
	Learner has outlined at least two (2) disadvantages of the diet in terms of nutritional, social, and/or ethical factors based on evidence
	Learner has outlined at least two (2) advantages of the diet in terms of nutritional, social, and/or ethical factors based on evidence
	Learner has provided a conclusion based on their report as to whether or not they would recommend the diet and explained why.

Answers:

Task 1 – Case study “Toni”

1. Calculate Toni’s protein needs (g):

Students may give a range of 1.3 - 1.5g/protein per kg bodyweight

$$80\text{kg} \times 1.3 = 104\text{g}$$

$$80\text{kg} \times 1.4 = 112\text{g}$$

$$80\text{kg} \times 1.5 = 120\text{g}$$

2. Calculate Toni’s fat needs:

$$80\text{kg} \times 0.85\text{g/kgBW} = 68\text{g}$$

3. Select the most appropriate calorie range for Toni from the list below:

a) 1800 – 1900 kcal

b) 2100 – 2250 kcal

c) 1900 – 2000 kcal

d) 2300kcal+

4. Given the calorie range you have selected as well as keeping in mind the macronutrient ratios, provide two (2) pieces of practical nutrition advice that Toni could implement immediately to help her stick within this calorie budget.

Advice can include but not limited to the following:

- Monitor portion sizes – stick to portion sizes recommended in the ministry of health guidelines
- Track food intake using an app and trying to keep within the estimated amount
- Choose foods higher in protein and fibre to ensure fullness
- Reduce amount of high fat high sugar foods in the diet

Micronutrients

5. The term “essential” is often talked about in health spaces. Explain to Toni what the term “essential” means when it comes to nutrition and provide at least two (2) examples of essential nutrients that she may need to be aware of.

The term essential basically means that as humans we require it for survival. Additionally, it means that we cannot make it ourselves in our bodies.

Students may list any of the following:

- Vitamins (A, B complex, C, D, E, K, biotin)
 - Minerals (calcium, magnesium, sodium etc)
 - Trace minerals (iron, copper, zinc)
 - Essential fatty acids (omega 3s, 6s)
 - Essential amino acids (histidine, phenylalanine, leucine, isoleucine, valine, methionine, lysine, threonine, tryptophan)
6. Toni has been a lacto-ovo vegetarian for the past fifteen years but is interested in going fully plant-based (no animal products). She is concerned about how this might affect her intakes of vitamin B12, iron, and calcium. Provide Toni with one piece of advice for how she can ensure adequate intakes of each of these nutrients (3 in total).

When changing diet from vegetarian (including milk and eggs) Toni may inadvertently reduce her intake of certain nutrients such as B12, iron, and calcium.

To ensure she gets enough of these nutrients in her diet, Toni may look into:

- Fortified foods (soy milk, breakfast cereals, plant-based yoghurts and cheeses, mock meats)
 - Supplementation – student must state that if they were to suggest supplementation the client needs to consult their doctor first.
 - Floradix liquid iron
 - Iron rich foods such as lentils, chickpeas, beans, tofu, cashews, seeds, dried fruit, tofu, certain mock meats
 - Combine iron rich plant foods with vitamin C to aid absorption
 - Eat foods like calcium set tofu or nutritional yeast (B12)
7. When we are providing nutrition advice to our clients – what is the scope of practice of a personal trainer? Provide four (4) main points that outline the scope of practice for a personal trainer when it comes to providing clients with nutritional advice.

A personal trainer can talk about the following with their clients. Students may word this in things that personal trainers can or cannot do. Points may include the following,

Personal trainers CAN:

- Talk about the benefits of following national healthy eating guidelines (i.e. Ministry of health for NZ) – eating statements
- Talk about the four food groups and ensuring your meeting those
- Compare what their clients are currently doing to the eating guidelines
- Provide general nutrition advice for weight management, as long as it aligns with guidelines.
- Provide meal examples (i.e not an eating plan)
- Encourage healthy preparation methods (i.e. steaming, baking, airfryer etc, preparing food at home vs convenience takeaways when plausible)
- Talk about reading food labels and education on what the macronutrients mean

Personal trainers CANNOT:

- Promote specific diets such as avoiding macronutrients or food groups completely (i.e extreme diets)
- Suggest or promote the use of nutritional supplements
- Give nutritional information to someone with a medical condition (i.e severe allergies or coeliac disease, IBS, mental health disorders etc)

- Give a meal plan that doesn't align with government health eating guidelines. i.e doesn't contain all the food groups

Students must outline 4 points.

Task 2 – Case study “James”

8. You notice that James tends to consume a lot of high fat foods that are mostly deep fried and/or of animal origin in his diet log. Identify the two types of fat he is mostly consuming:

Trans-fats and saturated fats

9. Identify three (3) types of foods he could add into his current diet to increase his intake of healthy fats and identify one (1) substitution he could make from his diet log to swap a less healthy fat for a healthier one. *For example, he could swap the bacon for avocado (you cannot use this in your answer)*

Foods he could include are (not limited to): avocado, a variety of nuts and seeds, tofu, salmon (and other fatty fish), olive oil, and other examples of foods high in mono or poly unsaturated fats.

Examples of substitution is to swap:

- The butter for olive oil margarine
- Beef burger for grilled fish burger
- Pork sausages for eggs
- The butter for almond or peanut butter

Note – students may have other ideas here, but they must provide a suggestion to swap something he is already doing to a better option.

10. Identify which one of the four food groups is completely missing from his diet and provide two (2) suggestions for how he could include this in his diet.

Food group missing = milk and milk products,

Suggestions: 1 cup of reduced fat milk with the coffee, yoghurt cup as a snack with the apple, slice or two of cheese with the burger, smoothie made with soy milk,

11. Identify which macronutrient he is under-consuming according to the recommended numbers. Provide two (2) suggestions for how he could incorporate more servings of this macronutrient in his diet based on what he is currently consuming.

The macronutrient is carbohydrates

Suggestions include but not limited to:

- having another piece of toast with breakfast
- adding banana to his snacks
- adding more vegetables like potatoes to his dinner
- Having rice crackers pre training
- Drinking orange juice or powerade before/during training

12. Considering James's current goals, describe two (2) consequences of his eating behaviour (consider how it may affect weight, performance, and overall health):

Consequences include:

- Not increasing in mass he is wanting to (for playing a contact sport fat and muscle are important)
- Reduced performance on the rugby field
- Continue to feel low energy at work
- Not being able to put on muscle
- Increased risk of injury due to lower energy and reduced calcium intake

Sports nutrition recommendations

13. James is not consuming any food between 2pm and 7pm, leaving a large gap for pre-exercise fuelling. Provide two (2) nutrition recommendations, including actual food example and specific timings for each in the pre-exercise timeframe. Briefly justify your recommendations. (Minimum 80 words)

Recommendation 1: He should have a low GI complex carb rich meal around 3pm (3 hours before). An example of this would be

- 1 cup of brown rice with a can of tuna and salad
- 2 pieces of wholemeal bread with sliced chicken and veggies
- 1 cup soba noodles plus tofu and veggies
- Pasta with tomato sauce and lentils

Learners only need to include one of the above options or similar meal

Recommendation 2: He should also have a snack around 5 or 6pm – this should be higher GI and easy to digest. This will enable him to access the energy in the food for his workout. Examples include:

- Banana
- Rice crackers
- Muesli bar
- Pretzels and hummus
- Yoghurt and granola
- Fruit smoothie (mixed berries, milk, and yoghurt)

Justification: the 3pm meal will be slow digesting and provide a lot of carbohydrates for energy later because of the starch containing meals suggested. The snack at 5 or 6pm includes more high GI quick and easy options to provide a small dose of carbohydrates to help him power through his workout.

14. James has asked for some advice regarding his current post-exercise nutrition habits. Identify the two (2) macronutrients as well as approximate amounts that he should focus on during the post exercise window. Provide two (2) example meal ideas that James could prepare ahead of time to meet these requirements. (Minimum 60 words).

James should focus on protein (20 – 30/40g) and carbohydrates (1g/kgBW - 82g) after exercise.

Examples include:

- 120g grilled chicken, steamed veggies (broccoli, mushrooms, capsicum etc), 1 cup cooked brown rice
- 1 large tortilla wrap with ¾ cup of black beans, corn, salsa, and lettuce
- 1 cup cooked quinoa, 100g salmon, cucumber, peppers, and carrots

Overall meal ideas should include a good amount of carbohydrates, protein, and ideally some vegetables or fruit (optional)

Learners only need to include 2 example meals here.

15. James is currently getting his nutrition advice from his teammates. Identify one (1) issue regarding this in terms of the information they are providing and suggest one (1) health professional that would provide better information for James and his nutritional needs.

The information he is getting from his teammates not very valid and may be based on their own experiences rather than best practice. A better person to provide advice would be a

- registered nutritionist
- Dietitian
- or even a personal trainer as he would be in scope

Task 3 – Referrals

A) Karen

Does this client fall within your scope of practice, or do they require a referral? (Indicate registered nutritionist or dietitian where applicable) Karen is outside of scope for a PT, better for her to see a Dietitian
Why you would refer them, or if they do not need to be referred, why? In her case study it sounds like she has experienced an eating disorder in the past and looking at some of the patterns/symptoms she is having now it could indicate some eating issues coming back. As a personal trainer, she would be outside of my expertise because of this.
The name, contact details and specialty area of an actual practitioner/s in your region who could help the person in each case study. (Note: you do not have to contact the practitioner) Answers will vary – students should use the dietitians.org.nz website to find a dietitian in their area. This person SHOULD be well-versed in eating disorders, but a referral to any dietitian is the most important part here. E.g. Rachael Bensley – Clinical Leader for Dietetics in Specialist Mental Health Services - Canterbury

B) Carla

Does this client fall within your scope of practice, or do they require a referral? (Indicate registered nutritionist or dietitian where applicable): outside of PT scope I suggest a Registered Nutritionist – pregnancy specialist preferred (this is optional as there are not a large number of these across the country)
Why you would refer them, or if they do not need to be referred, why? Though she is in good health, she is pregnant and also quite active, this means she is a special population which is outside the realm of a Personal trainer. Though she will likely have a midwife or doctor overseeing her pregnancy, a registered nutritionist can help her ensure she is getting what she needs to support the health of her baby.
The name, specialty area of an actual practitioner, and the region they are based who could help the person in each case study. (Note: you do not have to contact the practitioner) Chantal Cuthers – fertility, hormone, and infant nutrition support – Waikato, Auckland, Coromandel region

C) Alex

Does this client fall within your scope of practice, or do they require a referral? (Indicate registered nutritionist or dietitian where applicable): Alex is within Personal trainer scope
Why you would refer them, or if they do not need to be referred, why? Alex does not have any medical conditions (physical or mental) he would not be classed as a special population; he is essentially just a bit overweight due to lifestyle choices.
The name, specialty area of an actual practitioner, and the region they are based who could help the person in each case study. (Note: you do not have to contact the practitioner) Myself! Students may also write in a personal trainer in their region

D) Harry

Does this client fall within your scope of practice, or do they require a referral? (Indicate registered nutritionist or dietitian where applicable): Harry is outside of PT scope - Dietitian referral needed.
Why you would refer them, or if they do not need to be referred, why? Has a medical condition - IBS
The name, specialty area of an actual practitioner, and the region they are based who could help the person in each case study. (Note: you do not have to contact the practitioner) Fiona Boyle – Eating disorders, IBS, fussy eating and more – Mount Maunganui

E) Megan

Does this client fall within your scope of practice, or do they require a referral? (Indicate registered nutritionist or dietitian where applicable): Outside of scope - Registered nutritionist (sports)
Why you would refer them, or if they do not need to be referred, why? Wants a “specific daily meal plan”
The name, specialty area of an actual practitioner, and the region they are based who could help the person in each case study. (Note: you do not have to contact the practitioner) Amy Allport – master’s degree in sports nutrition - Tauranga

Task 4 – Popular diet research task – sample answer

Description of the diet:

The raw vegan diet is a combination of a strict vegetarian diet and a raw food diet consisting of raw fruit and vegetables, nuts, seeds, and sprouted grains and beans (Raba et al., 2019). This diet therefore excludes all animal foods and products and foods cooked at a temperature of above 48°C, so processes such as dehydrating can be applied where appropriate (Melina et al., 2016)

Why someone might be attracted to it:

Some people may be attracted to the diet because they wish to “detoxify” the body, having been influenced by people like Anne Wigmore a prominent raw foodist. Popularity of the diet picked up again in the mid to late 20th century with increase in interest in things like alternative medicine and curing the body through food, as well as high profile celebrities turning to the diet such as Woody Harrelson and Demi Moore (Davidson, 2022). Fully Raw Kristina is a well-known influencer who promotes raw veganism (with an emphasis on organic) as a full-on lifestyle that helped her heal her physical, emotional, and spiritual health. She was diagnosed at 16 with Type 2 diabetes, though she was severely underweight, she discovered a raw vegan diet and started juicing and eating high amounts of raw fruits and vegetables, and within two years was able to reverse her symptoms of hyperglycaemia.

Disadvantages:

1. Many of the purported benefits of a raw vegan diet are not backed by scientific evidence, for example, though some nutrients are lost during the cooking process; without cooking or processing in some way we would not be able to eat many nutritiously beneficial plant foods such as whole grains or legumes (Norris, 2012).
2. Reduced intake of calcium rich foods and amenorrhoea in females (Norris, 2012). Calcium is an important mineral for bone health and for growing adolescents the RDI is 1300mg per day (Ministry of Health, 2015). The main sources of calcium in the diet are milk and milk products, and non-dairy alternatives fortified with calcium. If those foods are avoided, other sources for raw vegans would be green leafy vegetables, sesame seeds, and legume, however according to the ministry of health “If milk, milk products and/or calcium fortified milk alternatives are not part of the diet, meeting calcium requirements via non-dairy sources alone is very difficult. In such situations a calcium supplement should be considered.” (Ministry of Health, 2015). Another notable disadvantage could be the wear and tear of tooth enamel due to the acidity of raw fruits and vegetables.

Advantages

1. one advantage is that people eating this diet would have a high intake of fibre and water – this could lead to weight loss if that is desired by the person entering the diet.
2. Another advantage is the high intake of antioxidants and some vitamins and minerals, such as vitamin C, vitamin A, folate, vitamin K, potassium – this would all depend on the types of foods that were being chosen, a variety of fruits and vegetables that are seasonal would be important.

Conclusion

In summary, this diet is very restrictive in nature, a lot of nutrients could be missed out on, and it would be difficult to maintain this in social settings and in certain climates with harsh winters and lack of availability of certain fruits and vegetables.

Though the Ministry of Health recognises that vegetarian diets can be healthful if properly planned, it seems like following a raw vegan diet may have more risks than benefits to both general health and performance, especially for adolescents. It is very extreme and any time you remove entire food groups from the diet (i.e dairy, grains, or legumes group), the chance

of being low in nutrients is high, which can affect your health negatively. Make sure you talk to your doctor or nutrition professional before making any major changes to your diet.

Assessor only resource