

Assessor Marking Guide

Programme Name	Health and Fitness Coach (Personal Trainer) (Level 4)	
Assessment Number	Assessment 1 of 2	
Assessment Title	Nutrition Case Study Test	
Course Number	Module 3	Version 2 Level 4 Credit 10
Course Title	Nutrition	

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.	5.1: Demonstrate an understanding of how diet and exercise can impact on the success of client outcomes. (1 credit)	Q1-3
	5.2: Apply evidence-based nutrition principles to suit client goals and outcomes. (3 credits)	Q1-3
	5.3: Demonstrate an understanding of the advantages and disadvantages of common dietary practices. (2 credits)	Q2

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.

Assessor only resource

Where appropriate **sample answers and or exemplars** may be included: Sample answers are a guide only providing an example of the sufficiency of qualitative and quantitative 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
NOTE	All answers to demonstrate evidence-based nutrition principles . Tutor discretion to apply.
Case Study 1 James a - d	<p>All word counts are met.</p> <p>a) Answers could include, but are not limited to:</p> <ul style="list-style-type: none"> • Food input • Activity output • Balance and timing of macro-nutrient intake <p>b) Answers to include:</p> <ul style="list-style-type: none"> • Correct type of fat • An appropriate recommendation <p>c) Answers to include:</p> <ul style="list-style-type: none"> • Appropriate statement on validity of advice • An appropriate health professional suggestion <p>d) Answers to include:</p> <ul style="list-style-type: none"> • Appropriate macronutrient suggestions • Appropriate meal idea
Case study 2 - Toni a - d	<p>All word counts are met.</p> <p>a.</p> <ul style="list-style-type: none"> • Answers could include, but are not limited to: • High protein foods • High fibre carbohydrates • An appropriate meal idea <p>b.</p> <ul style="list-style-type: none"> • Answers could include, but are not limited to: • Knowing what is in the food/nutrition awareness • Cost • Improving personal skills and confidence <p>Relevant food suggestions must be provided, based on MoH* guidelines</p> <p>c.</p> <ul style="list-style-type: none"> • Answers could include, but are not limited to: • Timing and type of food consumed pre-training • Low GI vs High GI foods in relation to timing • Can also include wording such as “100 – 200g of CHO in the 1 – 4 hours before training” as this is what they learn in the LMS. • 1 hour before training: High GI snack options include rice crackers with hummus, PowerAde, orange juice <p>Relevant food suggestions must be provided, based on MoH* guidelines</p> <p>d.</p>

	<ul style="list-style-type: none"> • Answers could include, but are not limited to: • + protection from illness, antioxidant levels, weight loss, fibre • - essential micro nutrient intake, energy levels,
Case Study 3 Catherine a - d	<p>All word counts are met.</p> <p>a) Answers could include, but are not limited to:</p> <ul style="list-style-type: none"> • Key vitamins: calcium, Vitamin D and their benefits e.g. immune function, bone density and immune system and brain function • Sources as appropriate: fresh fruit and veges, dairy, fish, legumes <p>b) An increase in the following but not limited to:</p> <ul style="list-style-type: none"> • Protein intake • Carbohydrate rich foods around training sessions to fuel training • Calcium rich food <p>c) Follow the MoH* Eating guidelines, include plenty of Low GI carbohydrates, lower processed foods, increased wholegrains, fresh fruit and veges, lean meats, low fat dairy, lots of colour</p> <p>d) Four of the following protein sources: Tofu, tempeh, soy beans, legumes, beans, nuts, seeds, protein powder, eggs, dairy products soy milk</p>

*Other reputable sources are possible as well, such as WHO.

Below are sample answers, tutor to apply discretion as to the content of the student answers and enough information provided for the marks.

Case Study Test: Following are 3 Case Studies with questions attached. You must answer all questions. You have 90 mins to finish this test.

Case study 1:

James is a mid-20s local rugby player who weighs 85kgs. He works as an electrician and so is on his feet regularly throughout the day. He is currently in pre-season and wants to increase his muscle mass for his position. He believes he needs to increase his calories to help put muscle or “bulk” as he has been told from his teammates, so James has maximised his food intake and has increased his pasta dinners, his carb heavy lunches and tries to eat a cooked breakfast in the morning with hash browns, eggs, and bacon. He is training in the gym twice a week with 2 rugby sessions as well including a light run on the weekends. He is often feeling tired the day after his trainings and is putting on mass but no muscle, so has come to you for some advice on his nutrition

- a) You have done a calorie calculation for James and have estimated that his maintenance calories are about 2700kcal per day based on his weight and activity level. Though his goal is building muscle mass, you estimate that an appropriate calorie range for him would be around 3000-3200kcal per day. After doing a 3-day diet log, you find that James is consuming 3500 – 4000kcal per day. **IDENTIFY** the likely consequence of this calorie intake and **PROVIDE ONE** solution James could apply to his nutrition or training to ensure that he is eating appropriately for his goals.

Due to the calorie surplus, he will likely be storing unwanted fat. He will be putting on fat, not muscle. He will be exceeding his calorie requirements.

Solutions: Increase cardio output (energy out) or decrease calorie intake by 300 – 800kcal per day e.g. reducing one snack per day

- b) You notice that James tends to consume a lot of bacon, eggs, butter, steak throughout his diet log. **IDENTIFY** the type of fat is he consuming a lot of here, and **PROVIDE ONE RECOMMENDATION** for incorporating healthier fats into his diet.

He will be consuming a lot of saturated or animal-based fats.

James could include more: nuts, seeds, fatty fish, avocado, vegetable oils (students to give one of these foods)

- c) As mentioned in the above case study, James is currently getting his nutrition advice from his teammates. **MAKE ONE STATEMENT** around the validity of the information they are providing and **SUGGEST ONE HEALTH PROFESSIONAL** that would provide better information for James and his nutrition needs.

The information he is getting from his teammates will not be evidence based. It may be “bro-science”. It may not be accurate because his teammates are not nutrition professionals. They may not have the correct information.

One health professional from: registered nutritionist, dietitian, sports nutritionist, personal trainer, GP

- d) His post-training meals typically consist of high fat meals such as KFC chips and McDonalds and a beer that he picks up on the way home. Foods that are high in fat after training will delay the digestion and absorption of protein and carbohydrates necessary for muscle repair and glycogen restoration. **GIVE TWO CLEAR SUGGESTIONS** for how this can be improved and **PROVIDE ONE PRACTICAL MEAL IDEA** that would be appropriate within the 1 -2 hours after training.

James needs to incorporate high-quality protein into his post-workout meal. He also needs to incorporate a good dose of carbohydrates to replenish the glycogen.

A practical meal idea needs to incorporate a good dose of carbohydrates (1g/kg body weight) about 85g and 20 – 40g of protein. For example, a serving of chicken breast, tofu, beans, lean meat, fish, can of tuna, eggs combined with carbohydrate source like rice, pasta, potatoes, bread. And some vegetables or fruit as well (not required, but recommended).

Case Study 2:

Toni is a late 30s workaholic who sits behind a desk most of the day for her work. She has recently gone to the doctor for a general check-up where she was weighed and had her waist circumference measured. Her results concluded that her BMI measurement was sitting at 31 and

her waist circumference was >88cm. These measurements put her at very high risk for type 2 diabetes, hypertension and cardiovascular disease. Her doctor suggested that incorporating a general fitness routine, following healthy eating guidelines, and working on a weight loss goal of approximately 10kg will bring her risk of these issues down significantly. Toni reflects on this with her doctor and mentions that she has been focusing on her career for the past couple of years and her health has taken a backseat, noting an 8kg weight gain in the past 12 months alone. She has taken this news seriously, and after an initial consultation has signed up as a new client of yours at the gym that you work at. Her goal is to spend the next 3 months doing weekly PT sessions with you at 6pm on Monday nights.

a) During your first session, Toni mentions that she struggles to feel full/satisfied from the foods that she chooses currently, which consists primarily of highly processed convenience foods high in sugar and fat. Due to her weight gain over the last year, she asks you for help with some suggestions for types of food that will help her stay fuller for longer and help her grow muscle while maintaining the calorie deficit that she needs to be in for weight loss. In the space below, provide recommendations for **two types** of food that will help Toni feel full and/or provide the building blocks for muscle growth. In your answer also give **one practical suggestion for each of the types of foods** that you have suggested. **(50-70 words)**

High protein foods such as chicken or fish

High fibre carbohydrates such as wholegrain bread

A meal idea could be a tuna salad sandwich with wholegrain bread for lunch

b) During your second training session, Toni admits that she often buys her lunch at work: either from the local takeaway joints, or cafes nearby. She also keeps a drawer full of her favourite snacks such as chocolate bars, lollies, chips, and biscuits that she snacks on throughout the morning. In the space below **explain one benefit of making food from home** and provide **one practical and simple healthy lunch option** that she can prep before work and **one high protein snack idea** that she could substitute her current snacks for. **(50-70 words)**

- Know what is in your food - Approximate knowledge of the nutrition content of the food that you make at home (e.g. calorie, fat, sugar, protein content)
- Cheaper – can buy ingredients in bulk and prep yourself
- Improve cooking skills – build confidence and ability to try new foods that you can prepare yourself

One practical and simple healthy lunch option could include:

- Wholegrains with protein and vegetable source
- Lean meat (or vegetable protein) Vegetable soup with wholegrain bread
- Fruit salad with Greek yoghurt

One high protein snack idea:

- Edamame beans
- Greek yoghurt
- Protein shake with fruit and milk
- Nuts and seeds trail mix
- Tuna and crackers

c) Toni is excited to let you know that she is down 5kg and weighed 85kg this morning on her scale at home. At this point, she has been training with you at 6pm for the past 8 weeks and you've noticed that she tends to run out of energy half-way through the workouts. You've also noticed her strength isn't progressing as much as you thought it would, although she is completing your suggested workouts each week very well. She lets you know that she often doesn't eat anything or very much after her lunch break at 12:30pm. Give **one practical nutrition recommendation** for the 1 – 4 hours before the training session with appropriate timing and amounts as well as **justification** for your recommendation **(50 - 70 words)**

It's recommended that 1-4 hours before training consuming 1-4g CHO per kg body weight plus a small dose of protein.

4 hours before training: Meal to consist of low GI carbohydrates such as wholegrains, starchy vegetables with the skin on, with a small portion of protein. Can relate number of grams of carbohydrates to body weight.

1 hour before training: Small meal or snack consisting of higher GI carbohydrates and minimal protein and fat. (eg; banana, x2 kiwi fruits, jam sandwich)

Glucose is the preferred fuel source and Toni should consider GI content of food with low GI foods being consumed further from activity and higher GI foods being consumed closer to activity due to reduced gastrointestinal distress.

d) Toni has investigated vegetarianism as a friend of hers has bragged about its benefits and how good she feels. Toni is quite interested but wants to know the nutritional risks and benefits of a vegetarian diet. Identify one risk and one benefit related to nutrition associated with a vegetarian diet. **(50-70 words)**

Risks for Toni involve possible reduction in certain nutrients e.g. iron, Vitamin B12, Omega 3 fatty acids, calcium, or vitamin D. Still be mindful to consume wholefoods and fruit and vegetables more often as there are a lot of highly processed "deemed healthy" vegetarian protein options on the market.

Benefits include good amounts of fibre, increases in other types of vitamins and nutrients like magnesium and potassium, and vitamin C

Case Study 3:

Catherine is moving into her 70s and has just retired from her job as a nurse, she was struggling to stay on her feet near the end of her career and now that she is retired has made the decision to try to keep walking at least 4 times a week to keep fit. Most of her life she and her partner either ordered food in or recently started utilizing a meal delivery service from a local caterer so she didn't have to cook, but now they have cut that expense down and will be cooking at home. She has come to you to ask for advice; not only with her nutrition, but in the context of increasing her exercise as well.

a) Catherine has learnt that there are some key vitamins and minerals important to have as she gets older, particularly Vitamin D (a more notable nutrient of concern for elderly) and calcium, what are the benefits of these micronutrients and what foods or supplements can she source them from? Give at least 1 benefit and 1 source for both.

Vitamin D – important for immune function, brain health and cognition, bone health – sources include: fatty fish (salmon), fortified dairy, vitamin D supplement with doctor approval

Calcium – important for bone health/density, metabolism, nervous system function – sources include dairy, fortified non-dairy milks, green vegetables, calcium set tofu, sardines.

b) A new gym has opened down the road from Catherine, and she is interested in maybe supplementing her walking with some time at a gym under the advice from her doctor. Her doctor has recommended light, machine, or free weights programmes to help with maintaining bone density and muscle mass – important for her age group. What nutritional recommendations would you make to Catherine to support her training in the gym?

To support Catherine's training in the gym we would want to see an increase in things like:

- Protein intake: increase meals higher in protein throughout the day
- Increase in carbohydrate rich foods around training sessions to fuel training
- Increase in calcium rich foods – e.g. increase to 3 – 4 servings of dairy products per day, fortified non-dairy milks, green vegetables, calcium set tofu, sardines.

c) One of the things Catherine wants to ensure is she is cooking good all-round meals for herself and her partner. What are some general recommendations you can make about the 3 meals of the day (breakfast, lunch and dinner)?

Breakfast – Consider utilising Low GI foods to feel fuller for longer and to keep blood sugar levels lower. Can include some low-fat milk and dairy products. Keep processed foods and high sugar cereals to a minimum.

Lunch – Increase in whole grain foods such as grainy breads, brown rice etc. Including some fruit and vegetables if possible while keeping sugar low.

Dinner – Lots of fresh vegetables and lean meats such as chicken and fish. Ensure variety in foods chosen as well.

She should follow MoH guidelines on plenty of lo GI carbs, limiting processed foods and increasing wholegrains, fruit and veges, lean meats and low fat dairy.

d) In the past Catherine was a vegetarian and enjoys meat free meals regularly. She wants to ensure that she gets enough protein in her diet, what are some recommendations you can make for non-meat sources of protein?

Some sources of meat free protein are: Tofu, tempeh, soy beans, legumes, beans, nuts, seeds, protein powder, eggs, dairy products, soy milk