

YMCA Level 3 Award in Nutrition for Physical Activity and Exercise (610/2286/X)

Operational start date: 01/05/2023

YMCA Level 4 Certificate in Applied Nutrition for Health, Wellness, Weight Management, and Sports Performance (610/2287/1)

Operational start date: 01/05/2023

Qualification Specification



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YMCA Awards

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YMCA Level 3 Award in Nutrition for Physical Activity and Exercise (610/2286/X)

YMCA Level 4 Certificate in Applied Nutrition for Health, Wellness, Weight Management, and Sports Performance (610/2287/1)

Qualification Specification

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Introduction

YMCA Awards is part of Central YMCA – the world's first YMCA – a national charity that's been helping people make positive changes in their lives since 1844.

We're experts in education, health, and wellbeing with over 20 years of experience developing UK-regulated and globally recognised qualifications.

We work closely with industry experts, employers, and training providers to make sure that our products and services deliver life-changing opportunities. With over half a million qualifications awarded, 300,000 people have advanced their careers with the YMCA Awards.

Aim

YMCA Level 3 Award in Nutrition for Physical Activity and Exercise (610/2286/X)

The aim of this qualification is to provide learners with the knowledge and skills required to provide clients with reliable, evidence-based nutrition and healthy eating guidance.

Working within their scope of practice they will be able to assist their clients in understanding the relevance of official guidelines to their individual personal food preferences and needs, directing those individuals who participate in physical activity and exercise to reputable sources of information when required.

YMCA Level 4 Certificate in Applied Nutrition for Health, Wellness, Weight Management, and Sports Performance (610/2287/1)

The aim of this qualification is to provide learners with knowledge and skills to apply reliable, evidence-based nutritional science and healthy eating recommendations.

Learners will gain an understanding of nutritional science and their application to exercise, sport and athletic performance. This includes:

- The limitations and risks of supplements and performance aids.
- The importance of hydration for sports performance.

Working within their scope of practice they will be able to support their clients in their understanding of the relevance of official guidelines to personal food preferences and needs, including for:

- Health and wellbeing
- Weight management
- Sports performance

directing individuals who participate in physical activity and exercise to reputable sources of information when required.

Note: These qualifications do not enable learners to provide prescribed, individualised, or bespoke diets, or nutritional advice for individuals who have medical conditions or for elite/professional athletes. These individuals should be referred on to a suitably qualified medical or nutrition professional (ANutr, RNutr, RD). See Appendix 2: Association for Nutrition (AfN) Code of Practice.

Progression opportunities

This qualification can lead to further training at the same and/or higher levels in a range of qualifications. For example:

- YMCA Level 3 Diploma in Personal Training (Practitioner) (603/2438/7)
- YMCA Level 3 Diploma in Exercise Referral (603/3103/3)
- YMCA Level 4 Certificate in Weight Management for Individuals with Obesity, Diabetes Mellitus and/or Metabolic Syndrome (600/6752/4)

Stakeholder engagement

Association for Nutrition

These qualifications map to, and are endorsed against, the Association for Nutrition (AfN) Competence Framework in Nutrition for Fitness and Leisure:

Qualification	AfN Competence Framework in Nutrition for Fitness and Leisure
YMCA Level 3 Award in Nutrition for Physical Activity and Exercise (610/2286/X)	Intermediate level All core competencies: • Fundamentals of Human Nutrition • Improving Health and Wellbeing • Nutrition Monitoring and Data Collection Techniques In addition to their YMCA Awards certificate, centres approved by AfN can also apply for learners to receive: • AfN Certificate in Intermediate Nutrition Essentials for Fitness & Leisure.

YMCA Level 4 Certificate in Applied Nutrition for Health, Wellness, Weight Management, and Sports Performance (610/2287/1)

Advanced level

All core competencies:

- Fundamentals of Human Nutrition
- Improving Health and Wellbeing
- Nutrition Monitoring and Data Collection Techniques

In addition to their YMCA Awards certificate, centres approved by AfN can also apply for learners to receive:

 AfN Certificate in Advanced Nutrition Essentials for Fitness & Leisure.

Chartered Institute for the Management of Sport and Physical Activity (CIMSPA)

The YMCA Level 3 Award in Nutrition for Physical Activity and Exercise (610/2286/X) meets the nutrition requirements of the CIMSPA Personal Trainer professional standard.

Both the YMCA Level 3 Award in Nutrition for Physical Activity and Exercise (610/2286/X) and YMCA Level 4 Certificate in Applied Nutrition for Health, Wellness, Weight Management, and Sports Performance (610/2287/1) meet the requirements for CIMSPA Awarding Organisation Partner Endorsed CPD (10 points).

Entry requirements, prerequisites, and availability

These qualifications have been designed for learners who:

- are 16+ years old
- can communicate effectively with individuals and groups.

For the YMCA Level 4 Certificate in Applied Nutrition for Health, Wellness, Weight Management, and Sports Performance (610/2287/1), learners must also:

• Hold a Level 3 qualification in Nutrition or a qualification that includes nutrition content at level 3 e.g. Level Personal Trainer qualification.

Learners can take these qualifications in:

Location	Regulated by
England	Ofqual
Northern Ireland	CCEA Regulation
Wales	Qualifications Wales
Other UK regions and outside of the UK	Ofqual

Reasonable adjustments and special consideration

In making these qualifications available, YMCA Awards has made every attempt to make sure that there are no unnecessary barriers to achievement. You can find full details of our reasonable adjustment and special consideration policy on our website.



ymcaawards.co.uk/centres/policies-and-procedures

Grading and structure

These qualifications are graded Pass or Refer.

A Pass grade demonstrates that a learner has been assessed as fully competent against all assessment criteria within the qualification.

A Refer indicates that a learner has been assessed as not yet competent against one of more of the assessment criteria of the unit and/or qualification. This is a failing grade and learners will require reassessment to achieve the qualification.

YMCA Level 3 Award in Nutrition for Physical Activity and Exercise (610/2286/X)

To achieve a pass, learners must complete one mandatory unit.

UN	Unit title	Level	GLH
F/650/6219	Nutrition for physical activity and exercise	3	49

Guided learning hours (GLH): 49 hours

Total qualification time (TQT): 75 hours.

YMCA Level 4 Certificate in Applied Nutrition for Health, Wellness, Weight Management, and Sports Performance (610/2287/1)

To achieve a pass, learners must complete three mandatory units.

UN	Unit title	Level	GLH
K/650/6220	Applied nutrition for exercise, sport, and athletic performance	4	44
L/650/6221	Supplements, performance aids and hydration for sports performance	4	22
M/650/6222	Providing dietary advice to support the needs of different athletes and sports people	4	29

Guided learning hours (GLH): 95 hours

Total qualification time (TQT): 208 hours.

Find out more about GLH and TQT on our website:



ymcaawards.co.uk/qualifications/glh-and-tqt

Using this document

The following pages provide the unit content for this qualification. Each unit includes learning outcomes, assessment criteria and relevant content for delivery. These are set out below.

Learning outcome ('The learner will')		
Assessment criteria	Relevant content	
('The learner can')	(additional delivery guidance)	
What a learner is expected to know, understand or be able to do following their learning.	Suggestions on depth and breadth of content to cover	

Assessment overview

YMCA Level 3 Award in Nutrition for Physical Activity and Exercise (610/2286/X)

The table below provides details of the three assessment tasks learners must complete to achieve this qualification.

Recognition of prior learning (RPL) can be accepted for learners who hold existing qualifications endorsed against the CIMSPA professional standards or National Occupational Standards (REPs/SkillsActive) or European Standards (EuropeActive/EREPs). Assessment may be required to check currency of knowledge for qualifications achieved over five years ago.

Assessment task	Details	Unit(s) assessed
1.1 Knowledge questions	Learners need to answer questions designed to assess their knowledge of: • nutritional terminology and definitions • macronutrients and micronutrients • different types of diets and dietary guidelines • energy requirements and supplements • communication skills, scope of practice and informed consent All questions must be answered correctly. The assessment workbook is available: • digitally (auto-marked) through YMCA Awards' online system • in print (centre-marked) from our web shop. Centres wishing to create their own questions or use their own platform must seek prior approval from YMCA Awards.	Nutrition for Physical Activity and Exercise (F/650/6219)

1.2 Information resources

Learners will create four information resources (written, electronic, video or audio) to outline:

- Nutrition for Physical Activity and Exercise (F/650/6219)
- 1. The relationship between nutrition, physical activity, body composition and health.
- 2. Alcohol and health.
- 3. The importance of hydration.
- 4. The limitations and risks of weight loss and fad diets.

The information resources should:

- Use a format that is appropriate for the target audience, e.g. poster, handout, information leaflet, social media page, podcast, Facebook recording or presentation (as appropriate).
- Be clear and concise:
 - O Written resources:
 - A maximum of 2 A4 pages (or equivalent) of information each.
 - Use short sentences and bulleted lists (as appropriate).
 - Video or audio resources:
 - a maximum of 10 minutes (as appropriate)
 - supporting written resources (as above)
- Use appropriate language and images to promote exercise, physical activity and wellbeing initiatives to the client group.
- · Provide credible and evidence-based information.

Further information on the expected content for each resource can be found in the YMCA Level 3 Award in Nutrition for Exercise and Fitness Learner Assessment Record (LAR).

	Information resources will be centre assessed by an assessor. Learners must complete their own work, and group completion is not permitted.	
1.3 Case study	Learners will complete a case study on a real, apparently healthy adult who does not require nutritional intervention from a doctor/dietician or nutritionist e.g. not diabetic, no Crohn's disease, no eating disorder.	Nutrition for Physical Activity and Exercise (F/650/6219)
	The client can be a:	
	friend or relative	
	partner or spouse.	
	Further guidance and paperwork to support this activity (including the case study template learners need to complete) can be found in the YMCA Level 3 Award in Nutrition for Exercise and Fitness Learner Assessment Record (LAR).	
	The case study will be centre assessed by an assessor. Learners must complete their own work, and group completion is not permitted.	
	Where learners do not provide sufficient evidence through the completion of the case study template, assessors may ask supplementary questions to confirm competence.	

The minimum requirements for assessment are outlined below.

		Assessment task		
UN	Unit title	1.1	1.2	1.3
F/650/6219	Nutrition for physical activity and exercise	х	х	х

YMCA Level 4 Certificate in Applied Nutrition for Health, Wellness, Weight Management, and Sports Performance (610/2287/1)

The table below provides details of the three assessment tasks learners must complete to achieve this qualification.

Assessment task	Details	Unit(s) assessed
1.1 Knowledge questions	Learners need to answer questions designed to assess their knowledge of: nutritional terminology and definitions macronutrients and micronutrients different types of diets and dietary guidelines energy requirements and supplements immune health communication skills, scope of practice and informed consent All questions must be answered correctly. The assessment workbook is available: digitally (auto-marked) through YMCA Awards' online system in print (centre-marked) from our web shop. Centres wishing to create their own questions or use their own platform must seek prior approval from YMCA Awards.	Applied Nutrition for exercise, sport, and athletic performance (K/650/6220) Supplements, performance aids and hydration for sports performance (L/650/6221)
1.2 Information resources	Learners will create four information resources (written, video or audio) to outline: 1. Fuelling for performance (for a selected activity/sport) 2. Weight management for performance (for a selected activity/sport)	Applied Nutrition for exercise, sport, and athletic performance (K/650/6220)

	 3. Safe use of supplements 4. Hydration and performance The information resources should: Use a format that is appropriate for the target audience, e.g. poster, handout, information leaflet, social media page, podcast, Facebook recording or presentation (as appropriate). Be clear and concise: Written resources: A maximum of 2 A4 pages (or equivalent) of information each. Use short sentences and bulleted lists (as appropriate). Video or audio resources: a maximum of 10 minutes (as appropriate) supporting written resources (as above) Use appropriate language and images to promote exercise, physical activity and wellbeing initiatives to the client group. Provide credible and evidence-based information. Further information on the expected content for each resource can be found in the YMCA Level 4 Certificate in Applied Nutrition for Health, Wellness, Weight Management, and Sports Performance Learner Assessment Record (LAR). Information resources will be centre assessed by an assessor. Learners must complete their own work, and group completion is not permitted. 	Supplements, performance aids and hydration for sports performance (L/650/6221) Providing dietary advice to support the needs of different athletes and sports people (M/650/6222)
1.3 Case study	 Learners will complete a case study on real, apparently healthy adults who: do not require nutritional intervention from a doctor/dietician or nutritionist e.g. not diabetic, no Crohn's disease, no eating disorder 	Providing dietary advice to support the needs of different athletes and sports people (M/650/6222)

• participate in exercise, sport and/or athletic events.

The clients may be:

- friends or relatives
- a partner or spouse.

Learners must cover the full range detailed below, which will require a minimum of two case studies:

- one vegetarian or vegan
- one older athlete
- one endurance-based activity/sport
- one strength-based activity sport
- one health-related goal (e.g. achieving RDA requirements)
- one weight loss or weight management goal.

Further guidance and paperwork to support this activity (including the case study template learners need to complete) can be found in the YMCA Level 4 Certificate in Applied Nutrition for Health, Wellness, Weight Management, and Sports Performance Learner Assessment Record (LAR).

The case studies will be centre assessed by an assessor. Learners must complete their own work, and group completion is not permitted.

Where learners do not provide sufficient evidence through the completion of the case study template, assessors may ask supplementary questions to confirm competence.

The minimum requirements for assessment are outlined below.

		Assessment task		
UN	Unit title	1.1	1.2	1.3
K/650/6220	Applied Nutrition for exercise, sport, and athletic performance	х	х	
L/650/6221	Supplements, performance aids and hydration for sports performance	х	х	
M/650/6222	Providing dietary advice to support the needs of different athletes and sports people		х	х

Qualification content: YMCA Level 3 Award in Nutrition for Physical Activity and Exercise (610/2286/X)

Nutrition for physical activity and exercise (F/650/6219)

Unit aim

The aim of this unit is to provide learners with the knowledge and understanding of the key principles of nutrition and healthy eating and how these can be applied to support health and wellbeing.

Learners will develop skills to apply official and evidence-based nutritional and healthy eating guidance to support individuals participating in physical activity and exercise within scope of practice.

Content

1. Understand the principles of nutrition for health and wellbeing 1.1 Define nutritional terminology Diet Healthy eating Nutrition

- Healthy, balanced diet
- Macronutrients
- Micronutrients
- UK dietary reference values (DRV)
- Recommended daily allowance (RDA)
- Recommended daily intake (RDI)
- Glycaemic index (GI)

1.2 State current government guidelines for healthy eating to meet individual needs

- Eatwell guide (evidence-based) recommendations
- How dietary needs can differ by gender, age and physical activity level.
- Principles of nutrition in relation to Eatwell guide
- How Eatwell guide information and evidence-based recommendations can be used to support different client goals
 - o fat loss
 - creating a calorie deficit
 - Important nutrients to elicit greater fat usage and support fat loss

- greater level of protein intake to prevent muscle atrophy
- higher levels of physical activity in particular resistance training and high intensity cardiovascular activity
- o weight loss
 - creating a calorie deficit
 - no adjusting of macronutrient contribution as long as a calorie deficit exists
- hypertrophy (application exceeds scope of practice)
- sports performance (application exceeds scope of practice)
- The importance of regular eating patterns to support a healthy, balanced diet

1.3 Explain the role of the macronutrients and micronutrients in health and wellbeing

- Function and food sources of main nutrients to meet nutritional requirements
 - Macronutrients carbohydrate and fibre, fats (saturated, un-saturated, essential fatty acids), protein (complete and incomplete)
 - Micronutrients vitamins (A,C,D,E), minerals (iron, zinc, sodium)
- Proportion of each food group to meet healthy eating guidelines
- Calorific value of:

fats: 9kcals/g

carbohydrates: 4kcals/g

o protein: 4kcals/g

alcohol: 7kcals/g

- · Dietary role of each nutrient
- Role of nutrients in energy and ATP production aerobic and anaerobic metabolism
- The effect of different types of training on the production of fuel for exercise
 - glycogen
 - phosphocreatine
 - amino acids
 - fatty acids

1.4 Explain the concept of the glycaemic index

Rating system for foods containing carbohydrates which shows how quickly each food affects blood sugar (glucose) levels when that food is eaten on its own

High GI foods

Carbohydrate foods that are broken down quickly by the body and cause a rapid increase in blood glucose have a high GI rating.

For example

- sugar and sugary foods
- sugary soft drinks
- o white bread
- o potatoes
- o white rice
- Low and medium GI foods

Low or medium GI foods are broken down more slowly and cause a gradual rise in blood sugar levels over time.

For example

- vegetables
- o pulses
- o wholegrain foods, such as porridge oats

1.5 Explain the importance of maintaining blood sugar levels

- Balance mood
- Maintain energy levels
- Assist weight management
- Reduce risk of health conditions, e.g. pre-diabetes, diabetes

Symptoms

- High sugar levels (hyperglycaemia)
 - Fatigue
 - Feeling thirsty.
 - Having blurry vision.
 - Frequent/excessive urination.
 - Risk of ketoacidosis (diabetic coma)
- Low sugar levels (hypoglycaemia)
 - Shaking.
 - Sweating.
 - Nervousness or anxiety.
 - o Irritability or confusion.
 - Dizziness.

	o Hunger
	Effects of prolonged high blook sugar levels
	Hormone response (insulin resistance)
	 Kidneys (nephropathy – a complication of diabetes)
	 Vision (retinopathy – a complication of diabetes)
	Risk of cardiovascular disease
	 Risk of metabolic syndrome (obesity, high cholesterol, high blood pressure)
1.6 Describe the	Simple carbohydrates:
differences between	called simple sugars
simple and complex carbohydrates	 found in a variety of natural food sources including fruit, vegetables and milk
	food a sweet taste
	easy/quick to digest
	• often provide no nutrition other than energy- ('empty calories')
	Complex carbohydrates:
	called starches
	found in wholegrain foods
	slower to digest
	often contain fibre
	more likely to contain nutrients other than energy
1.7 Explain how diet	Frequency of meals
can be used to maintain blood sugar levels	Food types (glycaemic index)
1.8 Explain the role of glycogen	 When blood sugar levels rise, the release of insulin causes excess glucose to be stored in the liver and muscles as glycogen,
	 When the body requires energy, glucagon breaks down glycogen back into glucose.
	 It therefore serves as an energy reserve by helping maintain blood sugar levels (especially during aerobic exercise)
1.9 Explain the role of cholesterol	 Plays a vital role in how every cell works and is also needed to make Vitamin D, some hormones and bile for digestion.

1.10 Explain the risks associated with high cholesterol levels

- Too much cholesterol in the blood can increase your risk of getting heart and circulatory diseases.
- Different types of cholesterol
 - o low density (or non-high density) lipoproteins unhelpful
 - high density lipoproteins helpful
- Foods and lifestyle choices lead to an increase in both types of cholesterol

1.11 Describe the relationship between nutrition, physical activity, body composition and health

- Boundaries and responsibilities
 - When and how to seek further information
 - When and how to refer individuals (See 2.6 and 3Scope of Practice).
 - Health conditions listed are outside of scope of practice and should be signposted to a suitably qualified medical or nutrition professional (i.e. ANutr, RNutr, RD).
- Health and disease risk factors linked with poor nutrition and physical inactivity
 - Body composition (lean: fat tissue ratio)
 - Obesity
 - Type 2 diabetes
 - Cardiovascular disease (coronary heart disease, high blood pressure, high cholesterol, stroke)
 - Cancer
 - Eating disorders
 - Effects of cholesterol
 - plays a vital role in how every cell works and is also needed to make Vitamin D, some hormones and bile for digestion.
 - too much cholesterol in the blood can increase your risk of getting heart and circulatory diseases.
 - different types of cholesterol
 - low density lipoproteins unhelpful
 - high density lipoproteins helpful
 - foods and lifestyle choices lead to an increase in both types of cholesterol
 - o Effects of different type of fats:
 - saturated
 - monounsaturated
 - polyunsaturated

	hydrogenated fats
	 essential fatty acids - omega 3 and 6 ratio
	 effects of excess sugar, salt etc.
	 Methods of altering energy intake (See 1.7/1.8 and 2.2)
	 Healthy food choices to support healthy eating and weight management (see 1.2)
1.12 Identify Individuals	Groups at risk:
and groups at risk of over and undernutrition	o iron deficiency
over and undernutifilori	 vegetarians, vegans, menstruating women, pre-school children
	o iodine deficiency
	 can lead to thyroid hormone production problems
	o vitamin D deficiency
	 people with dark skin, people with little sunlight exposure
	o calcium deficiency
	 young females and the elderly
	 Signs and symptoms of over and undernutrition
	 Cultural and religious dietary practices that will influence nutritional advice
	 How to recognise the signs and symptoms of disordered eating and eating disorders
1.13 Explain the importance of hydration	 Fluid requirements for different activity levels and environment
to support physical	Risks of dehydration
activity and health	Signs of dehydration
	 Fluid sources for optimal hydration (including food sources containing water)
	 Benefits, limitations, and suitability of different types of sports drinks (iso, hypo and hypertonic).
	Hydration requirements for different goals
1.14 Explain how portion sizes impact	 Eatwell guide recommendations and British Nutrition Foundation (BNF) resources on portion sizes
nutrient and energy intake	 Effects of altering portion sizes on health, energy and nutrient intake
	With consideration to:
	 Energy balance equation (see 2.2)
	 Interpreting food labels to guide healthy eating

1.15 Identify the impact of different food preparation and cooking techniques on nutrition and healthy eating	 Food preparation techniques and hygiene considerations Different cooking techniques, e.g. steaming, grilling, baking, frying etc. The impact of the above on nutrition and healthy eating guidelines
1.16 Evaluate the limitations and risks of weight loss and fad diets	 The importance of communicating risks of diets to clients Health and performance implications of diets that encourage severe energy restriction How nutritional intake can influence the actions of certain metabolic hormones Short- and long-term health risks of calorie restricted or macronutrient restricted diets The impact of yo-yo dieting Emphasising the impact of advertising and the few success stories that are highlighted Long-term impact on hormonal and metabolic regulation Psychological impact of weight loss and weight gain and its impact on day-to-day life e.g. lethargy, mood swings, emotional distress etc. Provide basic information on thermodynamics and the essence of every diet e.g. Fewer calories consumed than expended will result in weight loss irrespective of the diet's name
1.17 Explain the importance of regular eating patterns for a healthy and balanced diet	 Examples of different eating patterns and habits amongst individuals and groups. The importance of maintaining regular eating patterns for a healthy and balanced diet.
1.18 Describe the health risks of excess alcohol	 Alcohol content and units in common measures Effects of excess intake on health Calorific value of alcohol and contribution of alcohol to energy intake (kJ/kcal) Refer to responsible drinking guidelines – see Appendix 1: Information sources
1.19 Explain limits of safe practice when recommending dietary supplements (& performance aids).	 Evidence and limitations/risks related to the use of dietary supplements (& performance aids). Conflicts of interest surrounding sale of dietary supplements (& performance aids) within the workplace See Appendix 1: Information sources

2. Understand how to collect, analyse and use information relating to nutrition and health

2.1 Outline how to educate and encourage clients to make healthy food choices, including the use of food labelling.

- Use of appropriate communication methods
- Provide evidence-based information within own scope
- Know when, how and who to signpost clients to for more information
- The role of recognised nutrition professionals
- Protocols for the communication of nutrition information across the workforce.
- Nutritional requirements for different goals, e.g. fat loss, weight loss, performance, hypertrophy
- How food label information can be used to support healthy eating
- Consideration to lifestyle management and client motivation and communication skills

2.2 Explain how to calculate the energy requirements of individuals to support a balanced diet

- How energy requirements can vary depending on age, gender and activity level.
- Methods of estimating resting metabolic rate and energy requirements
 - Resting metabolic rate (RMR) or Basal metabolic rate (BMR) – Scofield formula etc
- How to estimate energy requirements based on physical activity levels and other relevant factors
 - Harris-Benedict equation (BMR x Physical Activity Factor)
 - Physical Activity Factor:
 - BMR x 1.4 inactive men and women (this applies to most people in the UK)
 - BMR x 1.6 moderately active women
 - BMR x 1.7 moderately active men
 - BMR x 1.8 very active women
 - BMR x 1.9 very active men
- The nutritional requirements and hydration needs of clients engaged in physical activity
- Nutritional and hydration requirements for different goals
- The effect of different types of training on the production of fuel for exercise
- Energy balance and the importance of maintaining a balanced diet that follows healthy eating guidelines

	 Components of energy expenditure and the energy balance equation
	 Weight gain – A calorie surplus whereby energy in is greater than energy out.
	 Weight loss – A calorie deficit whereby energy in is less than energy out.
	 Weight maintenance – A calorie equality whereby energy in is equal to energy out.
	How to support individuals and groups to alter energy intake to support body weight goals and when to refer on.
	Energy requirements to support the achievement of client goals.
2.3 Evaluate nutritional assessment tools used for educating and	The uses, benefits and limitations (validity and reliability) of various dietary records and nutritional assessment tools:
for educating and encouraging clients to	o food diary
make healthier food	o food recall
choices	 food frequency questionnaires
	 body composition assessment
	o technology
	Eatwell guide
2.4 Explain how to interpret information	How to accurately measure body composition
gained from methods	How different measures relate to nutritional intake
used to assess body	The benefits and limitations of different measures:
composition and health risk in relation to weight	 Norm chart for body fat percentage and skinfold data - see American College of Sports Medicine (ACSM) in references
	 World Health organisation (WHO) healthy ranges of body fat percentage, waist circumference and body mass index (BMI)
	How to sensitively communicate information to clients
2.5 Explore general strategies to support behaviour change to meet healthy eating guidelines	 Transtheoretical model – stages and processes to support individuals at each stage
	Relevant strategies at different stages, e.g. decisional balance, encouragement, goal setting, rewards
	Communication skills to support individuals at different stages
	 Pre-contemplation
	 establish rapport and build trust
	 explore the pros and cons of maintaining current lifestyle

 explore the meaning of the actions the client undertakes

Contemplation

- start to change the extrinsic motivations to intrinsic ones
- elicit self-motivational statements of intent and commitment from the client
- provoke ideas regarding the client's perceived selfefficacy and expectations regarding treatment

Preparation

- offer a menu of options for change.
- help the client enlist social support
- prompt from the client what has worked in the past either for him or others who he knows

Action

- support a realistic view of change through small steps
- assist the clients in finding new reinforcers of positive change
- acknowledge difficulties for the client in early stages of change

Maintenance

- affirm the client's resolve and self-efficacy
- maintain supportive contact
- review long-term goals with the client

2.6 Explain

professional role boundaries and when and how to signpost clients

Scope of practice

- general analysis of food diary
- educating on the process of healthy eating (see 2.2)
- provide recommendations to ensure client fits into 'healthy eating guidelines'
- feedback on popular mainstream diets and analysis of their pros and cons
- provide guidance on creating a calorie deficit or a calorie surplus

Role boundaries

- refer to experienced practitioner when client requests specific support based on:
 - client presents with an eating disorder
 - client presents with an alcohol addiction

 client presents with a medically controlled condition linked to nutrition e.g. diabetes
 client wants a specifically prescribed meal plan
When and how to signpost/refer
Range of professionals (Anutr, Rnutr, RD).
Credible sources of nutritional information (see Appendix 1: Information sources)

3. Be able to collect and analyse nutritional information and make appropriate recommendations	
3.1 Use appropriate nutritional assessment tools to identify client's dietary habits.	See 2.3
3.2. Analyse client's dietary habits and identify areas for improvement within scope of practice.	 Importance of informed consent prior to gathering information Using appropriate tools Information to gather from clients goals of the client general physical activity levels food likes and dislikes any allergies any cultural or religious food restrictions timing of food intake quantity of food intake specific macronutrient content any additional supplementation any medication being undertaken water, caffeine and alcohol intake Provision of information within scope of practice (see Appendix 2: AfN Code of practice)
3.3. Apply appropriate strategies to educate and encourage clients about healthy eating within scope of practice and current government guidelines.	 See 2.5 Use of appropriate lifestyle and behaviour change models Use of appropriate communication skills

3.4. Distinguish between credible and non-credible sources of nutritional information and guidance.	See Appendix 1: Information sources
3.5 Provide clients with appropriate information and/or signposting according to their individual health and nutrition needs	 See 1 and 2 See Appendix 2: AfN Code of practice
3.6. Maintain records in accordance with appropriate legislation	Data protection / General Data Protection Regulation (GDPR)

Qualification content: YMCA Level 4 Certificate in Applied Nutrition for Health, Wellness, Weight Management, and Sports Performance (610/2287/1)

Applied nutrition for exercise, sport, and athletic performance (K/650/6220)

Unit aim

To provide the knowledge and understanding to apply the key principles of nutrition and healthy eating to support performance in exercise, sport, and athletic events.

Learners will be able to apply evidence-based guidance on fuelling for performance, weight management, immune health, gut health, and the nutritional requirements before, during and after participation in different types of exercise and sporting activities.

Content

1. Understand the physiological demands of different sports and athletic events

- **1.1 Describe** the physiological demands of different types of exercise, sport, and athletic events
- · Exercise, sport and athletic demands and specificity
 - Different types of exercise and physical activity
 - Different types of sports/ events e.g. team, individual, land, water, equestrian, racquet, trackand field etc.
 - Level of competition e.g. recreation, amateur, Olympic, Paralympic etc.
 - Other variables
 - Intensity and duration
 - Muscle and joint action
 - Motor skills i.e. power, balance, coordination, reaction time, speed, agility
 - Muscle fibre type and energy systems
- **1.2 Explain** how the different energy systems interact during different types of exercise, sports and athletic events
- The substrates which fuel each energy system to generate Adenosine Triphosphate (ATP)
 - Substrates
 - Carbohydrate
 - Fat
 - Protein
 - Energy systems
 - Creatine phosphate
 - Glycogen
 - Oxygen

	Different types of sports and athletic events (see 1.1)
	 Aerobic and anaerobic metabolism
	Physiological demands that affect energy requirements (aerobic and anaerobic), such as:
	 Intensity
	 Duration
	 Individual factors e.g.age, fitness, skill, experience, and level of competition, diet
methods to	The use of tracking technology

1.3 Explain m estimate energy expenditure for different types of exercise, sports and athletic events

- Metabolic equivalents (METs)

2. Understand fuelling for performance

2.1. Explain how the bioavailability of carbohydrates affects performance

- Exercise, sport, and athletic performance
- Recap of Level 3 content e.g. Role of carbohydrate, calorific/energy density or value, food sources, types of carbohydrate, how carbohydrates are stored, recommended intake requirements and how excess requirements are stored.
- Timing and type of carbohydrate intake before, during and after exercise/sport (determined by intensity and duration)
- When to consume carbohydrate during sport/exercise
- Fasted training
- Pre and post exercise/sports meals and snacks
- Carbohydrates and recovery
- Different types of events e.g. endurance, resistance, long and short duration
- Carbohydrate periodisation

2.2. Explain the use of carbohydrate loading for athletic and sports performance

- Definition of carbohydrate loading
- Aims and purpose of carbohydrate loading
- Which athletes and sports people may benefit, and which may
- How to assess the effect of carbohydrate loading on performance, e.g., for endurance athletes
- When to use carbohydrate loading
- Examples of carbohydrate loading
- Effects of weight gain (glycogen storage)

2.3 Explain the Glycaemic Index and its use within sports and athletic performance.	Definition of terms
	o Glycaemic index
	o Glycaemic load
	How used in athletic and sports performance
	Glycaemic response in athletes
2.4 Explain how the	Exercise, sport, and athletic performance
bioavailability of protein affects performance	 Recap Level 3 content e.g. Role of protein, calorific/energy density or value, food sources, types of protein, how proteins are stored, recommended intake requirements and how excess requirements are stored.
	Endurance and strength events
	Optimising protein synthesis for athletic performance, including effects of leucine
	Protein before and after sport
	Protein intake per meal
	Protein and satiety
2.5 Explain how the	Exercise, sport, and athletic performance
bioavailability of fat affects performance	 Recap Level 3 content e.g. Role of fat, calorific/energy density or value, food sources, types of fat, how fats are stored, recommended intake requirements and how excess requirements are stored.
	How the body uses fat during exercise and sport (Fat metabolism: triacylglycerols to free fatty acids (FFA)
	Omega 3 and 6 fatty acids and performance, including best sources
	Effects on performance of excess adipose tissue (ie: how sub-optimal weight affects performance)
2.6 Explain how	Exercise, sport, and athletic performance
vitamins and minerals affect performance	Recap of Level 3 content e.g. Role of different vitamins and minerals, food sources, recommended intake requirements.
	The effects of exercise/sport on reactive oxygen species (ROS)
	Benefits and limitations of vitamin and mineral supplements
	Risks of imbalances linked with vitamin and mineral supplements
2.7 Explain how to	Exercise, sport, and athletic performance
adapt nutrition recommendations to meet different	Use and application of evidence-based information
	 Use and application of healthy eating guidelines (Eatwell Guide)

performance requirements

- Education on food groups and sources of nutrients
- Review and education of eating patterns (frequency and timings of meals and snacks)
- Review and education of portion sizes of meals and snacks and drinks
- Energy consumption during exercise, sports and athletic events
- Use of ergogenic aids such as energy gels
- Use of sports supplements such as protein powders
- Interpretation of food labels
- Review and advice on food preparation and cooking techniques
- Scope of practice and when to refer

3. Understand body composition and weight management in relation to sports and athletic performance

3.1 Explain how to estimate the energy requirements (kJ/kcal) of individuals

- Exercise, sport, and athletic performance
- According to:
 - Energy demands of different types of sports
 - Individual factors that affect energy requirements e.g age, gender, and activity level
 - Environment (climate, altitude and temperature)
- Different methods to measure energy requirements
- How to calculate basal metabolic rate (BMR)/resting metabolic rate (RMR)
 - BMR is an individual's basic requirement of energy at rest. This energy will be adequate to maintain the body's basic function without any movement.
 - See Mifflin-St Jeor equation for BMR
 - see Schofield formula.
- The effectiveness of different methods for calculating BMR/RMR
 - Harris–Benedict equation (BMR x Physical Activity Factor)
 - Physical Activity Factor:
 - BMR x 1.4 inactive men and women (this applies to most people in the UK)
 - BMR x 1.6 moderately active women

	- BMR x 1.7 moderately active men
	·
	- BMR x 1.8 very active women
	- BMR x 1.9 very active men
3.2 Evaluate methods for measuring and monitoring body mass index, body composition and energy expenditure.	 Advantages and disadvantages, accuracy, limitations, and suitability of measuring body composition: DEXA Infra-red Body stat measurements – bioelectrical impedance Skin fold calliper measurements Advantages and disadvantages, accuracy, limitations, and suitability of monitoring body composition: Body mass index (BMI) Waist circumference Waist to hip ratio Interpretation of information provided by different measures How these measures relate to nutritional intake
	How to compare results to norm tables and government
3.3 Explain the	guidelines
physiological impacts of	 How the body stores energy from different macronutrients (glycogen + fat stores)
weight loss and weight gain on sports and	 Correlation of health risk associated with weight gain and weight loss
athletic performance	○ ACSM guidance
	○ NICE guidance
	o BMI classifications
	Waist circumference classifications
	 Classifications for BMI and waist circumference in relation to disease risk, according to the NICE risk categories
	 Energy Availability (EA) and the risks of low EA, including the female athlete TRIAD (Relative Energy Deficiency in Sports - REDs).
3.4 Evaluate the effectiveness of the	 Energy balance equation is the relationship between calories in and calories out (CICO)
energy balance equation in supporting weight management	 Weight gain - A calorie surplus whereby energy in (EI or CI) is greater than energy out (EO or CO).
	 Weight loss - A calorie deficit whereby energy in (El or Cl) is less than energy out (EO or CO).
	 Weight maintenance - A calorie equality whereby energy in (EI or CI) is equal to energy out (EO or CO).

Factors which affect energy balance Hormones associated with energy balance The importance of a healthy eating guidelines How to alter energy intake to support body weight goals The relationship between nutrition, body composition and health and disease risk factors, and how this information can be used to guide food choice in relation to healthy eating quidelines. The importance of maintaining a balanced diet that follows healthy eating guidelines when supporting individuals and groups to alter energy intake to support body weight goals and when to refer on. When to refer to other professionals 3.5 Describe the Components of total daily energy expenditure (TDEE) -Adapted from Maclean et al., 2011 – see references – components of energy ResearchGate source. expenditure and their effects on weight BMR = basal metabolic rate management NEAT = non-exercise activity thermogenesis TEF = thermic effect of food EAT = exercise activity thermogenesis REE = resting energy expenditure NREE = non-resting energy expenditure. Resting Metabolic Rate (RMR) MET (Metabolic Equivalent of Task) Energy expenditure during physical activity, exercise, and sport Energy expenditure after physical activity, exercise, and sport The importance of maintaining a balanced diet that follows healthy eating guidelines when supporting individuals to alter energy intake to support body weight goals The relationship between nutrition, body composition and health and disease risk factors, and how this information can be used to guide food choice in relation to healthy eating guidelines. • When to refer on for specialist support, e.g., eating disorders, obesity. **3.6 Explain** the impact Considering, the following types of food and nutrition: which different types of 'Junk' food food and beverages Fast food have on weight Ready-made meals management

	 Diet foods and produce
	 Nutritionally empty foods and beverages (including alcohol)
	 Caffeine consumption
	 The relationship between nutrition, body composition and health and disease risk factors, and how this information can be used to guide food choice in relation to healthy eating guidelines.
3.7 Explain factors that	Sleep deprivation:
affect weight	 For adults and children
management.	 Links with leptin, ghrelin, and sleep duration
	Stress:
	 Visceral obesity
	 Physiology of the hypothalamic-pituitary-adrenal (HPA) axis and its relation to obesity and exercise.
	Effects of obesogenic environment
	 The sum of influences that the surroundings, opportunities, or conditions of life have on promoting obesity in individuals or populations
	 Environments that promote high energy intake and sedentary behaviour
	 The relationship between nutrition, body composition and health and disease risk factors, and how this information can be used to guide food choice in relation to healthy eating guidelines.
3.8. Explain the effect	Effects of calorie restricted diets
of nutritional intake on different metabolic	 increased mitochondrial efficiency, less calories burned for the same energy output
hormones	 decrease in circulating thyroid hormones
	 reduction in testosterone, leptin, insulin and IGF-1 levels in the blood
	 increase in catecholamines, glucagon and ghrelin
	Effects of carbohydrate restricted diets
	 Ketosis (advantages/disadvantages benefits/risks)
	 Effects on nervous system (brain fog etc)
3.9 Describe the nutritional requirements	Fat loss creating a calorio deficit
for different	creating a calorie deficit reduction in carbohydrate intake to elicit greater fat usage.
physiological and	o reduction in carbohydrate intake to elicit greater fat usage
performance goals which are based upon	 greater level of protein intake to prevent muscle atrophy

body composition and weight management

- higher levels of physical activity in particular resistance training and high intensity cardiovascular activity
- Weight loss
 - o creating a calorie deficit
 - no unnecessary tweaking of macronutrient contribution as long as a calorie deficit exists
- Hypertrophy
 - o creating a calorie surplus
 - increased protein intake to build and repair damaged tissue
 - maintaining carbohydrate intake in order for insulin to transport glucose and amino acids to the muscles
- Sports performance
 - sport dependant: possible alterations to diet including carbohydrate restriction, carbohydrate loading, high protein diets, calorie surplus for gaining size, calorie deficit for reducing weight (sports dependant on 'making weight')
 - When to refer for more specialist advice and support

See also 3.4

3.10 Explain the risks which poor nutrition has on sporting and exercise performance.

- Risks of both over and under nutrition
- Individuals at risk, such as sports and events where weight control is important, e.g. boxing, gymnastics, body building etc.
- Risks for all genders
- Risks of regular weight loss and effects on resting metabolic rate
- Risks of dieting and importance of communicating risks
 - Diets
 - Low carbohydrate diets
 - Low fat diets
 - Time- restricted diets
 - Ketones and ketosis
 - Healthy weight management
 - Short- and long-term health risks of calorie restricted or macronutrient restricted diets
 - The impact of yo-yo dieting
 - Long-term impact of dieting on hormonal and metabolic regulation

- Psychological impact of weight loss and weight gain and its impact on day-to-day life e.g. lethargy, mood swings, emotional distress etc.
- Thermodynamics and the essence of every diet e.g.
 Fewer calories consumed than expended will result in weight loss irrespective of the diet's name
- 'Adaptive Thermogenesis' and 'Metabolic Adaptation'.
- Energy Availability (EA) and the risks of low EA
 - Define energy availability
 - Causes of low energy availability
 - Athletes at greatest risk
 - Biological female athlete triad of conditions i.e. low body weight (disordered eating), low bone density (osteopenia, osteoporosis), irregular menstruation (amenorrhoea)
 - Relative Energy Deficiency in Sports (RED-S)
 - Prevention and treatment of RED-S
 - How to identify RED-S
 - Low Energy Availability in Females questionnaire (LEAF-Q)
 - General Anxiety Disorder, GAD-7 questionnaire
 - SCOFF questionnaire for disordered eating
 - Effects and symptoms of REDS on health and performance
- Signs and symptoms of disordered eating
- Signs and symptoms of eating disorders
- Anorexia nervosa
 - extreme thinness or weight loss
 - false perception of one's own weight i.e. think they are fat when extremely thin
 - eating very little
 - cold and bluish extremities
 - obsessive weighing
 - anxiety about food
 - sleep disruption
- Bulimia nervosa
 - tooth decay
 - o puffy face
 - frequent weighing

	 stains around the toilet bowl
	hiding food
	 secretive eating
•	 When to refer individuals for specialist support and when to seek further information

4. Understand gut health for wellbeing and performance					
4.1 Explain the effects of 'gut health' on wellbeing and performance	 Gut microbiota and their effects on health Differences in gut microbiota composition in athletes and general populations 				
4.2 Explain how exercise affects gut health.	 Microbiome: microorganisms (such as fungi, bacteria, and viruses) that exist in a particular environment Effects on microbiomes in the gut 'Training the gut' for exercise Exercise induced alterations to composition and functional capacity of the gut microbiota Types of exercise to induce alterations to gut microbiota Intensity of exercise to induce alterations to gut microbiota Health benefits of exercise-induced alterations of the gut 				
4.3 Explain how diet affects gut health	 The role of probiotics How different food types (meat based/vegan/vegetarian diets etc) influence hut health What microbiomes are present Gut pH levels (and the effects this has on the microbiome environment) Effects of processed foods Benefits of adequate fibre intake The effects of fermented foods on gut health Whole foods vs refined foods Plant based Diversity in the diet Chew rates 				
4.4 Describe signs and symptoms of gut problems	BloatingConstipationDiarrhoea				

	HeartburnIncontinenceNausea and vomitingReflux				
	Loose bowel movements.				
4.5 Explain methods to	Adapting the diet				
improve gut health	 Include probiotics in diet 				
	 Limit processed foods and sugar 				
	 Eat slowly and chew thoroughly to fully digest food to help absorb all its nutrients 				
	 Drink water as it aids with digestion 				
	 Fresh fruits and vegetables 				
	 Plant-based foods 				
	 Check for food intolerances 				
	Mindful eating				
	Exercise regularly				
	 Types and intensity of exercise 				
	Get enough sleep				
	Reduce and manage stress				
	Avoid or quit smoking				

5. Understand immune l	nealth and recovery from injury			
5.1 Explain what is meant by a 'healthy immune system'	 Components of the immune system Risk factors for infection How to reduce risk of infection 			
5.2 Explain how to optimise immune health	 The effects of exercise on 'immune health' The effects of diet and nutrition on 'immune health' Vitamin C, D supplementation Balance energy expenditure 			
5.3 Explain how nutrition influences immunity and supports recovery from exercise and injury	 Role of macronutrients Protein (amino acids) Carbohydrates Fats (Omega 3) Role of supplements 			

- o Echinacea
- Glutamine
- Probiotics
- Zinc lozenges
- Polyphenols
- o Vitamin C
- Vitamin D

See also Unit: Supplements, performance aids and hydration for sports performance (L/650/6221)

6. Understand nutritional requirements for exercise, sport, and competition

6.1. Describe nutritional requirements to assist in the preparation of exercise, sport and competition

- For exercise, sport, and athletic performance/competition
- Preparatory nutrition for competition
 - o In advance of event, such as 8-12 weeks before
 - o 24-48 hours before event
- Preparatory meal timings and type
 - Food choices, including carbohydrate intake and GI intake and effects on training and exercise
- With consideration to different event/competition needs
 - Endurance events, e.g. marathon running
 - Team sports, e.g. football
 - Making weight for competitions, e.g. boxing, judo body building, power lifting etc.
 - Short duration events, e.g. sprinting, power lifting

6.2. Describe nutritional requirements to assist performance during exercise, sport and competition

- For exercise, sport, and athletic performance/competition
- During and participatory/inter-sport nutrition
 - Types and timing
 - Solids and liquids
- With consideration to different event/competition needs
 - Endurance events, e.g. marathon running
 - Team sports, e.g. football
 - Making weight for competitions, e.g. boxing, judo body building, power lifting etc.
 - Short duration events, e.g. sprinting, power lifting

6.3. Describe nutritional requirements to assist in the recovery from exercise, sport and competition

- For exercise, sport, and athletic performance/competition
- · Post nutrition refuelling process and how long it takes
 - Use of high or low GI foods for recovery
 - Types of meals/snacks to support recovery and refuelling
 - Timing of meals to support recovery and refuelling
- With consideration to different event needs
 - o Endurance events, e.g. marathon running
 - Team sports, e.g. football
 - Making weight for competitions, e.g, boxing, judo body building, power lifting etc.
 - o Short duration events, e.g. sprinting, power lifting

Supplements, performance aids and hydration for sports performance (L/650/6221)

Unit aim

To provide a deeper understanding of the risks, limitations and safe use of supplements and ergogenic substances and the importance of hydration.

Leaners will understand dietary alternatives to using supplements and the role boundaries related to supplementation recommendation.

Content

1. Understand the safe use of supplements and ergogenic substances for performance

- **1.1 Explain** what is meant by the terms 'sports supplements' and 'ergogenic substances'
- Sports supplements supplements to the regular diet that may improve health, wellbeing, and performance, such as:
 - Muscle building
 - Weight gain
 - Weight loss
 - Hydration and rehydration
 - Assist recovery
 - Manage nutrient deficiencies
 - Improve endurance
- Ergogenic substances external substances that enhance sporting performance, including
 - Sports supplements
- Illegal substances
- 1.2 Explain the evidence, uses, limitations and risks related to the use of dietary supplements & ergogenic substances as aids to performance
- · Legal and banned substances
- Arginine
- Antioxidant supplements
- Branched chain amino acid supplements
- Beta-alanine
- Beetroot juice (nitrate)
- Bicarbonate

- · Caffeine and ketogenic drinks
- Cannabidiol (CBD)
- Cherry Juice
- Conjugated linoleic acid
- Collagen
- Colostrum
- Creatine
- Energy bars
- · Energy gels
- Ephedrine/ma huang/'fat burners'/thermogenic supplements
- Glutamine
- HMB (Beta hydroxy/beta methyl butyrate)
- Hydrogel energy drinks
- Ketones
- Leucine
- Omega 3 fatty acids
- Polyphenols
- Probiotics
- Protein supplements
- Prohormones /steroid precursors/testosterone boosters
- Taurine
- Zinc monomethionine aspartate (ZMA)

See Appendix 1: Information sources:

- WADA
- Bean, A (2022)
- 1.3 Critically evaluate the benefits of supplements and ergogenic substances in exercise, sports and athletic performance.
- For exercise, sport, and athletic performance
- Evidence behind widely used supplements
- When it may be appropriate to use supplements and when not
- · Reasons for use
 - o To build muscle
 - To gain weight
 - To lose weight
 - To assist recovery

To support rehydration To improve endurance To manage nutrient deficiencies Risks To career/reputation To health and well-being With consideration to illegal substances/supplements: Role of androgenic/anabolic steroids (AAS) – medical and illegal use, including different types (oral, injectable) esters used in AAS AAS cycles, AAS stacks, different types of cycle and post-cycle therapy Role of testosterone and how it can be enhanced Effects and side effects See Appendix 1: Information sources: World Anti-Doping Agency (WADA) guidelines UK Anti-Doping (UKAD) guidance Informed sport website Cannabidiol (CBD) warning 1.4 Explain scope of Limits of safe practice practice and conflicts of Conflicts of interest surrounding the sale of dietary interest surrounding supplements & performance aids to support performance. sports supplements and · Conflicts within the sports coaching environment and ergogenic substances workplace and how to manage these. to support performance. Role boundaries and limits of safe practice when recommending dietary supplements Awareness of UKAD guidance Awareness of substances that are evidenced as safe and illegal/banned substances **1.5 Describe** dietary Whole foods alternatives to the use Balanced dietary intake of sports supplements Regular meals and ergogenic substances to support • The importance of seeking guidance from an appropriately performance qualified nutrition professional for specific dietary advice

2. Understand the role of hydration in exercise and sports performance

2.1 Define the terms:

- Euhydration
- Dehydration
- Hypohydration
- Hyperhydration
- Euhydration a state of normal hydration.
- Dehydration the process of losing water.
- Hypohydration a state of reduced body water, usually a deficit of >2% of body weight.
- Hyperhydration a state of increased body water.

2.2 Explain the benefits, limitations, and suitability of different types of sports drinks (iso, hypo and hypertonic).

- For exercise, sport, and athletic performance/competition
- · Definitions and examples of
 - Isotonic drinks same concentration (carbohydrates and electrolytes) as body, e.g. fluid replacement and some energy drinks
 - Hypotonic drinks lower concentration (carbohydrates and electrolytes) than body, e.g., 'Lite' drinks
 - Hypertonic drinks higher concentration (carbohydrates and electrolytes) than body, e.g., fruit juices and colas.
- The function of electrolytes –e.g. sodium, potassium, magnesium
- Health risks associated with sports drinks e.g. gut problems, tooth decay
- When to use sports drinks
 - Homemade iso, hypo and hypertonic sports drinks
 - Carbonated or still sports drinks

2.3 Explain hydration recommendations and requirements when engaging in exercise and sport.

- For exercise, sport, and athletic performance/competition
- How much to drink to match sweat rates and limit dehydration
- hydration:
 - o pre-exercise or event
 - Aim to drink 500ml of water in the two hours leading up your session. This will allow for adequate hydration and urination.
 - during the event
 - To ensure adequate hydration, aim to drink 120– 180ml every 15 minutes. This is equivalent to a few gulps.
 - o post exercise or event
 - Aim to replace the fluid you have lost during the session plus half again to account for the thermal effect of exercise.

	How to identify hypohydration		
	 Using the fluid calculator and sweat rates 		
	Effect of sweat suits		
	Fluid loading, including the use of glycerol – see WADA guidelines in Appendix 1: Information sources.		
2.4 Explain the effects	Stages of dehydration		
of differing levels of dehydration.	Signs and symptoms of different stages		
deriyaration.	Effects on health		
	Effects on performance		
2.5. Explain hydration	For exercise, sport, and athletic performance/competition		
and fluid intake guidelines for different	 A broad range of types/genres 		
activity levels and	The effects of different training environments		
environments.	o Indoor		
	 Outdoor 		
	 Low temperature 		
	 High temperature 		
	o Low altitude		
	 High altitude 		
	Preparing for events in different environments		
2.6. Explain the effects	The average alcohol content of common beverages		
of alcohol on hydration, health, and sports performance.	Alcohol intake limits - responsible drinking guidelines		
	The contribution of alcohol to energy intake (kJ/kcal) and the effects of excess intake.		
	The effects of alcohol on hydration		
	The effects of alcohol on health		
	The effects of alcohol on performance		
	Risks of excess alcohol intake		

Providing dietary advice to support the needs of different athletes and sports people (M/650/6222)

Unit aim

The provide the knowledge and skills to understand dietary needs of a diverse range of exercisers, sports people, and athletes.

Learners will be able to provide evidence-based nutritional and dietary guidance within their scope of practice and know when and how to signpost to other professionals.

Content

1. Understand nutritional guidance for vegan or vegetarian athletes and sports people

- 1.1 Explain how to apply nutritional guidance to support the needs of vegetarian athletes and sports people
- What is a vegetarian diet?
- · Reasons for following a vegetarian diet
- Effects on performance
- Effects on recovery
- · Common deficiencies and how to adapt nutrition
- Effectiveness to meet protein needs of athletes and sports people
- Example meal plans
- Use of supplements to support dietary needs
- · Benefits and risks
- **1.2 Explain** how to apply nutritional guidance to support the needs of vegan athletes and sports people
- What is a vegan diet?
- · Reasons for following a vegan diet
- Effects on performance
- Effects on recovery
- Common deficiencies and how to adapt nutrition
- Effectiveness to meet protein needs of athletes and sports people
- Example meal plans
- Use of supplements to support dietary needs
- · Benefits and risks

2. Understand food allergies and intolerances and their impact on advice			
2.1 Describe a range of food allergies and intolerances	 Difference between allergies and intolerances Foods contain common food allergies and intolerances. 		
2.2 Describe methods of testing for allergies and intolerances	Methods of testingReliability of methods		
2.3 Explain the importance of signposting allergies and intolerances to other health professionals	 When to refer How to refer an individual if they suspect that they have a food allergy. The importance of referring allergies and intolerances to other professionals. 		
2.4 Describe the role of a dietician in the management of food allergies and intolerances	 Advice and guidance for different allergies and intolerances When and how food may be reintroduced by a dietitian 		

3. Understand the nutritional needs for different types of athletes and sports person

or enderetaria tile matitional neede for amerent types of atmotes and eponts person			
3.1. Explain the nutritional requirements and dietary needs of the younger athlete	Energy requirements		
	 Fuel consumption and usage 		
	 Weight loss and RED-S (Relative Energy Deficiency in Sport) risk (See Unit: Supplements, performance aids and hydration for sports performance (L/650/6221) 3.10) 		
	Healthy eating		
	Use of supplements		
	Protein consumption		
	 Competition eating – pre, during and post-event 		
	Hydration needs		
3.2. Explain the	Effects of ageing on performance		
nutritional requirements and dietary needs of the older athlete	Sarcopenia		
	Performance differences between biological men and women		
	Body composition		
	Energy requirements and age		
	Protein requirements and age		

Carbohydrate requirements and age

- Fluid requirements
- Beneficial supplements

3.3. Explain how cultural and religious dietary practices will impact dietary needs and performance

- Effects of different dietary needs and practices and how they may affect performance.
- Islam
- Muslims only consume Halal meat (meat that has been slaughtered in a prescribed way according to Islamic practices). They do not consume pork and during the religious festival of Ramadan, they fast between sunrise and sunset.

Hindu

- Hindus generally follow a vegetarian or vegan diet.
- A vegetarian is an individual who (for ethical, moral or other personal reasons) chooses not to eat meat, fish, poultry or animal products. Vegetarians do eat eggs and dairy products.
- A vegan follows a vegetarian diet and in addition does not eat dairy products and eggs.

Buddhist

 Buddhists generally follow a vegetarian or vegan diet. (see above)

Jewish

 Kosher meat is prepared by using a single knife to cut open the throat to kill the animal, with all the blood drained. The meat should be soaked in water and salted to remove the last traces of blood. Meat and dairy foods must not be prepared or eaten together.

Sikhism

- Sikhs do not eat halal or kosher meat, beef or pork because they are not meant to take part in religious rituals apart from those within the Sikh religion.
- Eastern Orthodox Christianity
 - Weekly fasts include abstention from meat, fish, eggs, dairy, and sometimes other foods such as olive oil and alcohol as well.
- Other social/cultural factors:
 - family
 - food availability
 - financial status
 - belief system e.g. veganism

4. Understand how to apply the principles of nutrition to support performance in exercise, sport, and athletics

- **4.1 Explain** how to select, collect, and use information gathered to improve performance through dietary changes
- The uses and limitations of technology for data collection and monitoring of dietary information, (e.g. applications and fitness monitors) to support nutrition behaviour change.
- Regular eating patterns
- Meal planning
- Food choice and selection
- Shopping
- Preparation and cooking methods
- Checking food labels
- Altering portion sizes and their relationship to energy intake, nutrient intake
- **4.2 Explain** the use of different strategies to support dietary change to improve performance
- · Behaviour change models
- Motivational interviewing
- Goal setting
- Dietary records and other methods of collecting information, advantages and disadvantages, e.g. food diary, food recall and food frequency questionnaires
- Dietary analysis
- Other support systems involved, e.g., athlete, coach, teammates, family, friends, other health professionals
- Managing relapse
- **4.3 Explain** how to select and apply appropriate communication methods to meet different needs
- Use of different communication methods, e.g. in person, electronic (zoom/Teams), written (email, letter, poster, infographic), social media, non-verbal communication (body language, eye contact etc.) and verbal communication (language, tone, speed, volume etc.)
- To explain reliable evidence-based healthy eating guidelines and nutrition information
- To meet needs of the sports person (individual), team (group) and workforce (training and coaching team and all involved).
- To develop and apply protocols for the communication of nutrition information across the workforce.
- Reliable evidence-based healthy eating guidelines and nutrition information, consistent with the needs of the individual/ group and workforce.

• Protocols for the communication of nutrition information across the workforce.

- Limits of own knowledge and competence and when to refer on or seek further information/ support.
- The role and expertise of recognised nutrition professionals (ANutrs, RNutrs and RDs), who to refer to, when and how.

4.4 Explain advice and guidance that can be offered within own scope of practice

- Healthy eating guidelines reliable, evidence-based, healthy eating guidelines to guide individual and group food choice.
- Food groups and sources of nutrients and the contribution of a variety of foods from different food groups and knowledge of food sources of macronutrients and micronutrients (vitamins A, C, D, E, calcium, iron, zinc and sodium) to support individual and group food choice in relation to healthy eating guidelines.
- How dietary needs can differ by gender, age and physical activity level.
- Regular eating patterns and how this may relate to individuals and groups eating habits and the importance of maintaining regular eating patterns for a healthy and balanced diet.
- Portion size, meals, snacks and drinks and strategies for providing and promoting appropriate portion sizes in relation to healthy eating guidelines and the impact of altering portion size on energy and nutrient intake.
- Food labels and interpretation of nutritional information contained on food labels to guide food choice in relation to healthy eating guidelines.
- Food preparation and cooking techniques and how different food preparation and cooking techniques impact on nutrition and healthy eating guidelines.
- The limitations of 'fad' diets and potential risks, including risks of:
 - ketogenic diets
 - intermittent fasting
 - eating according to blood type

4.5 Explain limitations and boundaries of scope of practice when providing nutritional advice and guidance

- Association for Nutrition (AfN) codes of practice
- Role boundaries and ethical practice
 - What is scope of practice? What they can and cannot do with this qualification (See Appendix 2: Association for Nutrition (AfN) Code of Practice).
 - Working within the limits of their knowledge, competence and skills
 - Work with 'healthy' individuals

	When to refer to other professionals		
	 Complex or specific needs 		
	 Food allergies and intolerances 		
	 Hormonal deficiencies 		
	 Eating disorders 		
	 Health conditions, e.g. diabetes, pregnancy 		
	How to refer to other professionals		
	The range of nutritional professionals and their roles		
	The importance of maintaining role boundaries		
	The need to seek supervision when situations are beyond their competence and authority		
	Being accountable for decisions and behaviours		
	 Appropriate behaviours (See Appendix 2: Association for Nutrition (AfN) Code of Practice) 		
	 Respect dignity, privacy, and safety of individuals 		
	 Ensuring actions are honest, trustworthy, reliable, and dependable 		
	 Ensuring services provided are delivered equally and inclusively 		
	 Respecting the views, wishes and wellbeing of individuals 		
	See Appendix 2: AfN Code of Practice		
4.6 Explain how to use	The objectives and purpose of data and information collection		
and store information in accordance with	Storage and retrieval practices		
appropriate data	Data sharing protocols		
protection legislation.	Working in accordance with organisational policies and standards		
	 Suitable methods for collecting and validating the quality of data and information. 		
	Legislation e.g. GDPR, client confidentiality and data protection		
4.7 Explain the	Maintaining competence within their role and field of practice		
importance of maintaining professional competence	 Keeping knowledge and skills up-to-date to ensure safe and effective practice 		
	 Understanding own development needs and make continuing improvements 		
	 Continuing professional development activities and their importance for keeping skills and knowledge current 		
	Sources and types of CPD		

• Additional qualifications and learning pathways to evolve scope of practice, e.g. dietitian

5. Be able to apply the principles of nutrition to support performance in exercise, sport and athletics within scope of practice 5.1. Consult with See 4 clients and gather information about their eating behaviours and dietary requirements using appropriate methods and tools 5.2. Use appropriate • See 4 communication • to explain reliable evidence-based healthy eating guidelines methods to meet and nutrition information, consistent with the needs of the different needs and individual/ group and workforce. ensure safe practice protocols for the communication of nutrition information across the workforce. 5.3. Analyse See 4 information gathered to identify areas for dietary change and improve performance 5.4. Make See 4 recommendations for See Unit: Supplements, performance aids and hydration for appropriate nutritional sports performance (L/650/6221) strategies to meet different physiological and performance goals. 5.5. Make See Unit: Supplements, performance aids and hydration for sports performance (L/650/6221) recommendations for hydration and fluid intake appropriate to the individual's requirements. 5.6. Provide advice Limits of own knowledge and competence and when to refer on or seek further information/ support. and guidance within own scope of practice to support any recommendations given **5.7. Signpost clients** to • The role and expertise of recognised nutrition professionals

See 4

(ANutrs, RNutrs and RDs), who to refer to, when and how.

other professionals

when needs and

requirements exceed scope of practice	See Appendix 2: AfN Code of Practice		
5.8. Use and store information in accordance with appropriate data protection legislation.	• See 4		
5.9 Reflect on practice and information gathered and make recommendations to improve own skills and knowledge.	 Use of Kolb model Identify strengths Identify areas to develop Identify sources to improve own skills and knowledge 		

Appendix 1: Information sources

Please note: While the information sources listed are available at the point of development/publication; access to specific website pages will change over time, as will the currency of information.

Information sources and organisations:

- American College of Sports Medicine (ACSM): https://www.acsm.org/
- Anorexia and Bulimia Care: www.anorexiabulimiacare.co.uk
- Association for Nutrition: https://www.associationfornutrition.org/
- Beat Eating Disorders: https://www.beateatingdisorders.org.uk/
- British Diabetic Association- Diabetes UK: www.diabetes.org.uk
- British Heart Foundation: www.bhf.org.uk
- British Nutrition Foundation: https://www.nutrition.org.uk/
- Cannabidiol (CBD) warning https://www.ukad.org.uk/cannabidiol-cbd
- CIMSPA: https://www.cimspa.co.uk/
- Department of Health: <u>www.dh.gov.uk</u>
- Drinkaware: https://www.drinkaware.co.uk
- Glycaemic Index: www.glycemicindex.com
- Health Development Advice: <u>www.hda-online.org.uk/</u>
- Informed sport website https://sport.wetestyoutrust.com/
- International Obesity Taskforce: www.iotf.org
- National Institute of Health and Care Excellence (NICE): https://www.nice.org.uk/
- National Library of medicine: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3943438/
- National Library of Sports Medicine: https://pubmed.ncbi.nlm.nih.gov/18049985/
- NHS Choices: www.nhs.uk/Livewell/Goodfood/Pages/eatwell-plate.aspx
- NHS Eatwell: https://www.nhs.uk/live-well/eat-well/
- Research gate: https://www.researchgate.net/figure/Components-of-total-daily-energy-expenditure-TDEEBMRbasal-metabolic-rate_fig1_260397860
- Scientific Advisory Committee on Nutrition: www.sacn.gov.uk
- The Eatwell Guide: https://www.gov.uk/government/publications/the-eatwell-guide
- UK Anti-Doping (UKAD) guidance https://www.ukad.org.uk/athletes/managing-supplement-risks
- WADA prohibited substances https://www.wada-ama.org/en/prohibited-list
- World Anti-Doping Agency (WADA) guidelines https://www.wada-ama.org/en
- World Health Organisation (WHO): https://www.who.int/

Textbooks:

- American College of Sports Medicine (2022) 11th edition. ACSM's Guidelines for Exercise Testing and Prescription. USA. Wolters Kluwer.
- Bean, Anita (2010) Sports Nutrition for Women. London. UK. Bloomsbury Publishing.
- Bean, Anita (2014) 4th Edition. Food for Fitness. London. UK. Bloomsbury Publishing.
- Bean, Anita (2022) 9th edition. *The Complete Guide to Sports Nutrition*. London. UK. Bloomsbury Publishing.

Appendix 2: AfN Code of Practice

Source: Association for Nutrition (AfN:2022)

Code of Practice (compulsory)

- 1. Students must know and be able to demonstrate their understanding of the boundaries of their role and responsibilities, including:
- a) Working within the limits of their knowledge, competence and skills
- b) Understanding the boundary of their role and when/how to refer on as appropriate
- c) The need to seek supervision when situations are beyond their competence and authority
- d) Promoting and demonstrating good practice as an individual and as a team member
- e) Being accountable for their own decisions and behaviours
- 2. Students must know and be able to demonstrate their understanding of the need to maintain their levels of competence, including:
- a) Maintaining competence within their role and field of practice
- b) Keeping knowledge and skills up-to-date to ensure safe and effective practice
- c) Understanding own development needs and make continuing improvements
- 3. Students must know and be able to demonstrate their understanding of the need to uphold basic standards of good character, including:
- a) Respect dignity, privacy and safety of individuals
- b) Ensuring actions are honest, trustworthy, reliable and dependable
- c) Ensuring services provided are delivered equally and inclusively
- d) Respecting the views, wishes and wellbeing of individuals

Notes on boundaries and responsibilities (compulsory)

- The competencies listed above are only for use by those working with the general (healthy) population.
- A student successfully completing a certified course should be able to aid an individual in
 understanding how official guidelines are applied to their them and their food preferences
 and signpost to reputable information sources, such as NHS Choices, recognised health
 charities, Government advice and to suitably qualified medical and nutrition professionals.
 Completion of a certified course does not qualify an individual to provide prescribed,
 individualised or bespoke advice that goes outside of supporting achievement of official
 nutrition recommendations or in relation to an individual's medical condition(s).
- Individuals requesting/requiring prescribed, individualised or bespoke advice in relation to nutrition, dietary advice in relation to medical conditions, dietary advice or support for the primary aim of influencing sporting/fitness performance (i.e. for elite/professional individuals or groups) should be promptly referred on to a suitably qualified medical or nutrition professional (ANutr, RNutr, RD).

Guidance for training providers

Centre and qualification approval

Before you can begin delivery of this qualification, you must be a YMCA Awards centre with appropriate qualification and staff approval.

Find out more on our website:



ymcaawards.co.uk/approvals

Tutor, assessor and IQA requirements

All tutors, assessors and internal qualify assurance (IQA) staff need to hold:

- A subject matter qualification.
- A qualification related to the role that they will be performing (tutor, assessor or IQA).

Find out more on our website:



ymcaawards.co.uk/approvals/staff-approval

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