

# Unit 10: Nutrition for Sports Performance

**Unit code:** H/502/5525

**QCF Level 2:** BTEC First

**Credit value:** 10

**Guided learning hours:** 60

## ● Aim and purpose

The aim of this unit is to enable learners to develop skills and knowledge in personal nutrition linked to sports performance.

## ● Unit introduction

A well-balanced diet is a key factor in successful sports performance and good nutrition is essential to keep the body healthy. Poor nutrition can cause illness or fatigue, especially for athletes who regularly take part in training sessions and competition. A well-balanced diet, that is matched to energy expenditure and recovery from both training and competition schedules, is essential. The link to maintaining appropriate body weight and body composition is a key aspect in maintaining and improving sports performance.

This unit enables learners to work, where possible, with individuals such as athletes, coaches, personal trainers and nutritionists.

The first part of the unit considers energy demands of sports and the nutritional requirements needed in order to maintain energy levels. Learners will develop an understanding of the importance of macro and micronutrients, alongside adequate fluid levels and their role in achieving a balanced diet. This will be linked directly to sports performance and how dietary intake may be increased or reduced before, during or after training or competition. Learners will develop a personal food diary to establish their own eating patterns and identify any areas for improvement.

In the second part of the unit, learners will work together supported by specialist staff, to plan, implement and review their own diet and personal nutritional strategy for the future. This will include details such as meal planning and adequate rehydration and how diet can be supplemented in order to meet individual needs. Learners can include personal preferences covering a variety of different food types, meal plans, supplements, drinks, and the costs of maintaining a healthy eating plan.

## ● Learning outcomes

**On completion of this unit a learner should:**

- 1 Know the nutritional requirements of a selected sport
- 2 Be able to assess own diet
- 3 Be able to plan a personal nutritional strategy
- 4 Be able to implement and review a personal nutritional strategy.

# Unit content

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## 1 Know the nutritional requirements of a selected sport

*Nutrients:* carbohydrates; fat; protein; water; vitamins; minerals; functions and dietary sources

*Healthy diet:* balance of good health; preparation of food; importance (general health and lifestyle, energy levels, training and competition performance)

*Sports-specific requirements:* before, during and after training; before, during and after competition; during rest periods; supplements; hydration; energy intake; meal planning

## 2 Be able to assess own diet

*Collecting and collating information:* eg food diaries, type, amount, timing, feelings

*Assess:* eg comparison with relevant guidelines, paper-based calculations, dietary analysis software

*Report:* strengths and areas for improvement eg eating less or more food, eating less or more of a particular food group, eating at different times, preparing food in a different way, drinking more fluid or drinking different types of fluid, in relation to sports performance and training

## 3 Be able to plan a personal nutritional strategy

*Nutritional strategy:* eg food groups, balance of good health, rehydration, preparation, quantity, timing, energy intake, avoidance of substances that have a negative impact, supplementation (energy bars, vitamin and mineral supplements, creatine, protein powders)

*Meal plans:* eg type, amount, preparation, fluid

*Adviser:* eg coaching staff, nutritionists, tutors

## 4 Be able to implement and review a personal nutritional strategy

*Implement:* before, during and after training; before, during and after competition; food diaries

*Monitor and review:* eg how the nutritional strategy is meeting needs, adopting the nutritional strategy, how the nutritional strategy fits in with likes, dislikes and lifestyle, cost, results, modify strategy as required

## Assessment and grading criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria for a pass grade describe the level of achievement required to pass this unit.

Assessment and grading criteria		
To achieve a pass grade the evidence must show that the learner is able to:	To achieve a merit grade the evidence must show that, in addition to the pass criteria, the learner is able to:	To achieve a distinction grade the evidence must show that, in addition to the pass and merit criteria, the learner is able to:
<b>P1</b> describe the nutritional requirements of a selected sport	<b>M1</b> explain the nutritional requirements of a selected sport	<b>D1</b> evaluate the nutritional requirements of a selected sport describing suitable meal plans
<b>P2</b> collect and collate information on own diet for two weeks		
<b>P3</b> describe the strengths of own diet and identify areas for improvement [SM2, CT1, RL1]	<b>M2</b> explain the strengths of their own diet and make recommendations as to how it could be improved	<b>D2</b> justify recommendations made regarding improving their own diet.
<b>P4</b> create a personal nutritional strategy, designed and agreed with an adviser [CT1]	<b>M3</b> contribute own ideas to the design of a personal nutritional strategy	
<b>P5</b> implement a personal nutritional strategy		
<b>P6</b> describe the strengths of the personal nutritional strategy and identify areas for improvement. [RL1]	<b>M4</b> explain the strengths of the personal nutritional strategy and make recommendations as to how it could be improved.	

**PLTS:** This summary references where applicable, in the square brackets, the elements of the personal, learning and thinking skills applicable in the pass criteria. It identifies opportunities for learners to demonstrate effective application of the referenced elements of the skills.

<b>Key</b>	IE – independent enquirers CT – creative thinkers	RL – reflective learners TW – team workers	SM – self-managers EP – effective participators
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## Essential guidance for tutors

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### Delivery

Learners need to understand the nutritional demands and energy requirements of a selected sport. Tutors should introduce the topic by identifying the importance of a healthy diet for general health and lifestyle and for competitive performance. The nutrients essential to health, their function and food sources should also be covered. Learners can carry out activities where they identify the main nutrient(s) in a range of different foods. Healthy eating guidelines should then be discussed, looking at the food groups and how to ensure a balanced diet.

Sports-specific nutritional requirements need to cover pre- and post-training and competition, rest periods and hydration. Learners can look at the benefits and drawbacks of a range of nutritional supplements through individual or group research. Meal planning will enable learners to apply their knowledge.

Learners need to be able to assess their own diet. This will involve recording all the food they consume in a diary or log then comparing the results with recommended guidelines. Learners need to understand the range of information a food diary should include and they should be introduced to paper-based and electronic methods of analysing dietary information. It is recognised that not all centres will have access to computer software so electronic methods of dietary analysis do not actually have to be carried out. It is important to give learners the opportunity to practise examining and discussing diets designed for sports participants, to help them identify the strengths of their current diet and areas for improvement.

Learners need to understand how to plan a personal nutritional strategy, which should include food groups and quantities, fluid intake and rehydration. Methods of preparing food, timing of food intake and supplementation should also be included in the strategy. It would be useful for learners to see examples of nutritional strategies for elite and professional performers. Learners also need to be aware of who can help them devise a personal nutritional strategy and then plan their own with support. It is often unrealistic for the personal nutritional strategy to be ideal; what it should do is move the learner towards a better diet and healthier lifestyle.

The final part of the unit requires learners to implement and review their personal nutritional strategy. The implemented strategy should cover a period of two weeks.

The input of relevant guest speakers would provide a valuable addition to the delivery of this unit.

## Outline learning plan

The outline learning plan has been included in this unit as guidance and can be used in conjunction with the programme of suggested assignments.

The outline learning plan demonstrates one way in planning the delivery and assessment of this unit.

Topic and suggested assignments/activities and/assessment
Introduction and overview of the unit
<b>Assignment 1: Nutrition Intake and Sport (P1, M1, D1).</b> Know the nutritional requirements of a selected sport. Tutor introduces the assignment brief
Macro and micronutrients: a balanced diet and hydration. Tutor-led delivery
Energy intake and expenditure linked to sports diets, training and competition – small-group research and group feedback via presentation
<b>Assignment 2: Food – How Much and How Often? (P2, P3, M2, D2).</b> Be able to assess own diet. Tutor introduces the assignment brief
Food diaries, methods of recording, advantages/disadvantages (tutor-led) and then research in pairs. Individual completion of food diary
Individual work. Analysis of own diet and areas for improvement. Written report on areas for improvement of own diet
<b>Assignment 3: Personal Nutritional Strategy (P4, M3).</b> Tutor introduces the assignment brief and nutritional strategy
Meeting nutritional requirements/strategies. Tutor-led (guest speaker) meal planning and small-group practical research on supplements. Poster presentation to the group
Planning and creating meals/snacks/drinks. Small-group practical on presenting a breakfast, lunch, dinner and snacks for the group
<b>Assignment 4: My Healthy Nutrition Plan (P5, P6, M4).</b> Tutor introduces the assignment brief
Follow the nutritional strategy. Tutor-led pre, inter and post-event nutrition. Small-group work. Learners devise and price up their own meal plans and snacks based on exercise output
Evaluate the effectiveness of the plan. Small-group discussion and summary report of the strengths of the meal plans and how they can be improved
Evaluation of the unit

## Assessment

For P1, learners need to describe the nutritional requirements of a selected sport and link this to a healthy balanced diet. The inclusion of macro and micronutrients should be a key part of the work. The benefits of a healthy diet and sports-specific nutritional requirements should also be covered. In terms of a healthy diet learners should identify food groups, quantities, preparation of food and fluid intake. For M1, they will need to discuss the demands of their chosen sport and explain how nutritional requirements may change or alter. For D1, learners must evaluate nutritional requirements and link this to a named sport, providing examples of different meal plans for pre, inter, and post-event and when at rest.

For P2, learners need to collect and record information on their own diet over a two-week period. This may be via a simple diary or food log which can be linked to P3 to describe their own diet, looking at the strengths and areas for improvement. For M2, learners must explain how their own diet can be improved and how recommendations can be implemented. The use of nutrition software packages may be a useful learning tool to help achieve this. For D2, learners should justify their recommendations for improving their own diet.

From this, learners can meet P4 by creating, with support, a personal nutritional strategy and plan. Learners will need to contribute their own ideas to the plan to meet M3. This could include hydration, personal likes and dislikes of foods, methods of preparing foods, eating regimes or supplements.

For P5, learners should implement their own agreed strategy for two weeks, linking this to their food diary or food log. Criterion P6 focuses on the strengths of the personal nutritional strategy and how this could be amended or changed in the future to meet the needs of their sporting activities. For M4, learners should explain the strengths of their own personal nutritional strategy and make specific recommendations for further improvement.

### Programme of suggested assignments

The table below shows a programme of suggested assignments that cover the pass, merit and distinction criteria in the assessment and grading grid. This is for guidance and it is recommended that centres either write their own assignments or adapt any Edexcel assignments to meet local needs and resources.

Criteria covered	Assignment title	Scenario	Assessment method
P1, M1, D1	Nutrition Intake and Sport	Your sports coach has asked you to look at your diet and nutritional intake and check that this is appropriate for your sports training and performance. Determine the nutritional requirements of a selected sport	Presentation Witness statement
P2, P3, M2, D2	Food – How Much and How Often?	Complete a personal two week food diary.	Written report and poster presentation
P4, M3	Personal Nutritional Strategy	Using information gained from your food diary, create a personal nutritional strategy and individual meal plans for a two-week period.	Written diary/log Menu and snack plans
P5, P6, M4	My Healthy Nutrition Plan	Implement your personal nutritional strategy and monitor and review your plan.	Written report

## Links to National Occupational Standards, other BTEC units, other BTEC qualifications and other relevant units and qualifications

This unit forms part of the BTEC Sport sector suite. This unit has particular links with the following unit titles in the BTEC Sport suite and the BTEC Sport and Exercise Sciences suite:

Level 2 Sport	Level 3 Sport	Level 3 Sport and Exercise Sciences
Anatomy and Physiology for Sport	Principles of Anatomy and Physiology in Sport	Anatomy for Sport and Exercise
Fitness Testing and Training	The Physiology of Fitness	Sport and Exercise Physiology
Development of Personal Fitness	Exercise, Health and Lifestyle	Exercise, Health and Lifestyle
Lifestyle and the Sports Performer	The Athlete's Lifestyle	Analysis of Sports Performance
Effects of Exercise on the Body Systems	Sports Nutrition	Sports Nutrition

This unit links with the National Occupational Standards (NOS) for:

- Coaching, Teaching and Instructing at Level 2
- Achieving Excellence in Sports Performance at Level 3.

### Essential resources

Effective delivery of this unit will require a range of texts and use of a suitable computer software package such as Microdiet is recommended.

### Employer engagement and vocational contexts

This unit focuses on the research and practical aspects of nutrition related to sport, and provides learners with a sound understanding of the importance of a healthy diet and meal planning. Centres are encouraged to develop links with local health education professionals, sports teams, and local food suppliers or supermarkets.

## Indicative reading for learners

### Textbooks

Adams M, Beashel P, Hancock J, Harris B, Phillippo P, Sergison A and Taylor I – *BTEC Level 2 First Sport Student Book* (Pearson, January 2010) ISBN 9781846906220

Adams M, Beashel P, Harris B, Johnson S, Phillippo P and Sergison A – *BTEC Level 2 First Sport Teaching Resource Pack* (Pearson, April 2010) ISBN 9781846907173

Bean A – *Food for Fitness* (A&C Black, 2008) ISBN 9780713681284

Bean A – *Sports Supplements* (A&C Black, 2007) ISBN 9780713682595

Burke L – *Practical Sports Nutrition* (Human Kinetics, 2007) ISBN 9780736046954

Griffin J – *Food for Sport, Eat Well, Perform Better* (Crowood, 2001) ISBN 9781861262165

HMSO – *Manual of Nutrition, 11th Edition* (TSO, 2008) ISBN 9780112431169

Karinch M – *Diets Designed for Athletes* (Human Kinetics, 2001) ISBN 9780736038348

Larson-Meyer D E – *Vegetarian Sports Nutrition* (Human Kinetics, 2006) ISBN 9780736063616

Manore M et al – *Sport Nutrition for Health and Performance* (Human Kinetics, 2000) ISBN 9780873229395

Meltzer S and Fuller C – *Complete Book of Sports Nutrition* (New Holland, 2007) ISBN 9781845370817

Rinzler C A – *Nutrition for Dummies, 4th Edition* (Wiley, 2006) ISBN 9780471798682

Thandani S – *Kids Football Fitness* (A&C Black, 2008) ISBN 9781408105733

### Journals

*British Journal of Nutrition*

*British Medical Journal*

*International Journal of Sports Nutrition*

*Journal of Nutrition*

*Journal of Sports Nutrition*

### Websites

British Association of Sport and Exercise Sciences      [www.bases.org.uk](http://www.bases.org.uk)

British Nutrition Foundation      [www.nutrition-org.uk](http://www.nutrition-org.uk)

British Olympic Committee      [www.olympics.org](http://www.olympics.org)

Food Standards Agency      [www.foodstandards.gov.uk](http://www.foodstandards.gov.uk)

Institute of Food Research      [www.ifrn.bbsrc.ac.uk](http://www.ifrn.bbsrc.ac.uk)



## Delivery of personal, learning and thinking skills (PLTS)

The table below identifies the opportunities for personal, learning and thinking skills (PLTS) that have been included within the pass assessment criteria of this unit.

Skill	When learners are ...
<b>Creative thinkers</b>	describing the strengths of own diet and identifying areas for improvement creating a personal nutritional strategy, designed and agreed with an adviser
<b>Reflective learners</b>	describing the strengths of own diet and identifying areas for improvement describing the strengths of the personal nutritional strategy and identifying areas for improvement
<b>Self-managers</b>	describing the strengths of own diet and identifying areas for improvement

Although PLTS are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

Skill	When learners are ...
<b>Independent enquirers</b>	researching different diets for athletes writing a report on areas for improvement of their own diet
<b>Creative thinkers</b>	planning and creating a two-week menu
<b>Reflective learners</b>	evaluating the effectiveness of their meal plans and two week menu
<b>Team workers</b>	researching energy intake and expenditure and supplements
<b>Self-managers</b>	following the personal nutritional strategy for two weeks
<b>Effective participators</b>	following the personal nutritional strategy for two weeks

## ● Functional Skills – Level 2

Skill	When learners are ...
<b>ICT – Use ICT systems</b>	
Select, interact with and use ICT systems independently for a complex task to meet a variety of needs	researching different diets for athletes researching energy intake and expenditure and supplements
Use ICT to effectively plan work and evaluate the effectiveness of the ICT system they have used	planning and creating a two-week meal plan
Manage information storage to enable efficient retrieval	evaluating the effectiveness of the plan
<b>ICT – Find and select information</b>	
Select and use a variety of sources of information independently for a complex task	researching different diets for athletes researching energy intake and expenditure and supplements
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	evaluating the effectiveness of the plan
<b>ICT – Develop, present and communicate information</b>	
Enter, develop and format information independently to suit its meaning and purpose including: <ul style="list-style-type: none"> <li>• text and tables</li> <li>• images</li> <li>• numbers</li> <li>• records.</li> </ul>	presenting a poster on energy and food supplements planning and creating a two-week meal plan analysing their own diet evaluating the effectiveness of the plan
Bring together information to suit content and purpose	presenting a poster on energy and food supplements planning and creating a two-week meal plan analysing their own diet evaluating the effectiveness of the plan
Present information in ways that are fit for purpose and audience	presenting a poster on energy and food supplements planning and creating a two-week meal plan analysing their own diet evaluating the effectiveness of the plan
Evaluate the selection and use of ICT tools and facilities used to present information	presenting a poster on energy and food supplements planning and creating a two-week meal plan analysing their own diet evaluating the effectiveness of the plan

Skill	When learners are ...
<b>Mathematics</b>	
Understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations	analysing their own diet
Identify the situation or problem and the mathematical methods needed to tackle it	analysing their own diet
Select and apply a range of skills to find solutions	analysing their own diet
Interpret and communicate solutions to practical problems in familiar and unfamiliar routine contexts and situations	analysing their own diet
Draw conclusions and provide mathematical justifications	analysing their own diet
<b>English</b>	
Speaking and listening – make a range of contributions to discussions and make effective presentations in a wide range of contexts	presenting a poster on energy and food supplements
Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions	planning and creating a two-week meal plan analysing their own diet evaluating the effectiveness of the plan
Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively	analysing their own diet

