

Unit 15: Principles of Nutrition for Healthier Food and Special Diets

Unit code:	H/600/7861
QCF Level 3:	BTEC National
Credit value:	3
Guided learning hours:	21

● Aim and purpose

The purpose of this unit is to provide learners with knowledge of the principles of nutrition, healthier foods and special diets. Learners will develop their knowledge of the principles of balanced diets, nutritional information and their understanding of special dietary needs.

● Unit introduction

Nutrition is about the study of food and how our bodies use food as fuel for growth and daily activities. The macronutrients include proteins, carbohydrates, and fats. The micronutrients include the vitamins and minerals that we need to be healthy.

The principles of nutrition are becoming more important in today's society, as scientists are finding many benefits to a balanced diet which include the supporting of a healthy and long life. There have been many initiatives, including at government level, to promote healthy eating. Many people who work in the hospitality industry need to be able to make proposals for balanced diets for their clients. Although this is especially true within certain groups of people, such as residents in retirement homes or boarding school children, many individuals are now demanding to know about the nutritional content of their foods. While supermarkets have taken this demand on board by offering nutritional information for ready meals, the hospitality industry is also expected to provide much more information to interested parties.

In this unit, learners will investigate the nutritional needs of human beings and the workings of the digestive system, in order to develop an understanding of a balanced diet. Learners will find out about the problems caused by a deficiency or excess of any of the important nutrients in the diet.

Learners will learn about the specific dietary needs of different groups of people, in order to advise which dishes are most appropriate for a balanced diet, and which may be recommended for customers who are suffering from a deficiency or excess of any nutrients.

● Learning outcomes

On completion of this unit a learner should:

- 1 Understand the importance and principles of balanced diets
- 2 Understand food labelling and nutritional information
- 3 Understand special dietary needs
- 4 Understand how to plan and promote healthier food choices.

Unit content

1 Understand the importance and principles of balanced diets

Government's guidelines for a healthy diet: eating a variety of different foods; eating the right amount to be a healthy weight; eating foods rich in starch and fibre; eating a variety of fruit and vegetables; eating moderate amounts of foods that contain a lot of fat; eating moderate amounts of sugary foods and drinks; drinking alcoholic drinks sensibly

Sources of nutrients: meats; fish and shellfish; eggs; dairy produce; fats and oils; fruit and vegetables; grains and seeds; nuts; pulses

Nutrients: benefits eg building and repairing tissues, giving heat and energy, regulating body processes; macronutrients eg protein, carbohydrates, fats; micronutrients eg minerals, vitamins; effects of inappropriate amount of nutrients eg obesity, cancers, heart disease, diabetes, stroke, thromboses, scurvy, ketosis, anaemia, night blindness

Implications of using food supplements: unwanted effects eg when taken before surgery, when taken with other dietary supplements or medicines, when having certain health conditions

Implications of using food additives: advantages eg improving the look, colour and texture of food, increasing the shelf life of food, helping prevent food poisoning; disadvantages eg destroying vitamins in food, used to make bad quality food look good, people may be allergic to particular food additives

Anatomical description: mouth; oesophagus; stomach; small intestine; pancreas; large intestine; colon; liver; rectum

Processes and actions involved: chewing; saliva; gastric acid; chime; food absorption; bile; pancreatic enzymes; bacteria eg e-coli, lactobacillus acidophilus

2 Understand food labelling and nutritional information

Nutrients: proteins; fat (saturated and unsaturated); carbohydrates, of which sugar; vitamins C, D and B group; iron; calcium

Figures: government sources; standard recipes; standard menus; percentage of recommended daily requirements; National Health Service; supermarkets and food producers eg traffic lights; food groups

Definitions: high fat; low fat; high sugar; low sugar; high salt; low salt; high fibre; calorific value

3 Understand special dietary needs

Age groups: children; teenagers; young adults; adults; elderly

Situations: hospitals; schools (day, boarding); prisons; care homes; hotels; restaurants; sports clubs; spas; ships

Specific dietary needs: diabetes; food allergies; intolerances eg coeliac disease; special diets eg low fat, dairy free, vegetarian, low salt

4 Understand how to plan and promote healthier food choices

Meals and menus: for different situations; to cater for different special diets; nutritionally balanced

Factors to consider: cooking methods to be used; availability of ingredients; choice and variety; skills available; time available; costs; changes in customer demand; trends in food production eg organic, free range; body image; government initiatives and agencies; reports on supplements eg omega oils; media promotion of fresh foods over convenience; quality and range of manufactured food available to the caterer; additives; food labelling; educational policy eg breakfast clubs, vending machines, school meals

Effects of food processes on nutrient content: freezing; drying; cooking; reheating

Methods of promoting healthier food choices: regular meals; balanced diet; body mass index (BMI); Health Development Agency and guidelines

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:
<p>P1 describe the current government guidelines for a healthy diet</p> <p>P2 identify the sources of nutrients</p> <p>P3 evaluate the effects of nutrients on health [IE 3]</p> <p>P4 describe the implications of using food supplements</p> <p>P5 explain the implications of the use of food additives</p>	<p>M1 compare roles of nutrients in a balanced diet</p>	<p>D1 assess the relative importance of the nutrients to the digestion process.</p>
<p>P6 describe the meaning of nutritional information on food labels [IE 4]</p> <p>P7 state the guidelines which must be followed when making nutritional claims on food labels</p>	<p>M2 explain how the selection of food could affect the nutritional content of a selected menu</p>	
<p>P8 explain the specific dietary needs of different groups of people [IE 2]</p> <p>P9 explain how certain diets can affect health</p>	<p>M3 analyse the suitability of menus for their given situations, making suggestions for improvements</p>	
<p>P10 explain how to provide meals to meet the dietary needs of individuals</p> <p>P11 state the effects of food processes on nutrient content [IE 3]</p> <p>P12 describe methods of promoting healthier food choices.</p>	<p>M4 assess the relative importance of factors and advice that promote a healthy diet.</p>	

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.

Key	IE – independent enquirers	RL – reflective learners	SM – self-managers
	CT – creative thinkers	TW – team workers	EP – effective participators

Essential guidance for tutors

Delivery

This unit is an ideal vehicle for learners to investigate nutrition and to develop their ideas on how to provide a healthy diet.

Learning outcome 1 gives the opportunity to investigate the nutritional content of various foods and food groups. Research could be carried out using the internet or other sources, including government figures which are readily available. This could be supported by a visit from an appropriate health service expert who gives regular nutrition advice, for example, a dietician. Nutrition is important to many people in society, not just those who are ill; for example, many participants in sports will take serious nutritional advice to improve their performance, so a visit from a local sports club coach might also support the learning.

It is important that learners understand the need for nutrients and the problems associated with deficiencies or excesses of nutrients.

Learners will also need to analyse the nutritional content of menus. This will require some calculation, and may best be achieved using a spreadsheet program. Learners may need support to take a recipe and calculate the content of the various nutrients in each food item and to conclude from this the nutritional content of the whole dish.

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 to the unit and the programme of learning.
Tutor input, question and answer, discussion – nutrients and their uses and sources.
Tutor input, question and answer, discussion – government guidelines for a healthy diet.
Visit from nutritional expert to give talk on how the human digestive system processes food. Question and answer session (to include preparation time for question and answer session).
Tutor-led discussion on the implications of using food supplements and food additives.
Guided research using internet or library facilities to support assignment.
Assignment 1 – The Importance and Principles of Balanced Diets (P1, P2, P3, P4, P5, M1, D1)
Learners produce a website to raise awareness about nutrients required for a balanced diet.
Tutor-led discussion on the meaning of nutritional information on food labels.
Tutor-led discussion on the guidelines which must be followed when making nutritional claims on food labels.
Guided research for the assignment.
Assignment 2 – Food Labelling and Nutritional Information (P6, P7, M2)
Learners create a presentation about nutritional information on food labels.
Group discussion about the specific dietary needs of different groups of people.
Group discussion about how certain diets can affect health.
Exercise – learners analyse the suitability of menus for their given situations.

Topic and suggested assignments/activities and/assessment

Assignment 3 – Special Dietary Needs (P8, P9, M3)

Learners create a presentation about the specific dietary needs of different groups of people.

Tutor-led discussion on ways to provide meals to meet the dietary needs of individuals.

Tutor-led discussion on the effects of food processes on nutrient content.

Group discussion about methods of promoting healthier food choices.

Assignment 4 – How to Plan and Promote Healthier Food Choices (P10, P11, P12, M4)

Learners produce a website to raise awareness of how to plan and promote healthier food choices.

Tutorial support and feedback.

Self-initiated learning time.

Assessment

The sub-headings in this section mirror the funnelling opportunities in the grading grid. They suggest how assessment can be grouped to allow learners to progress to the higher grades; however, they are not prescriptive.

P1 – P2 – P3 – P4 – P5 – M1 – D1

For P1, learners must show understanding of nutrition, eg what vitamins, minerals, carbohydrates are, what foods they are found in, and the government guidelines that are relevant to nutrition. Learners should be aware of such things as the recommended water intake and nutritional intake. This description need only be at a general level rather than for a specific situation or age group. Learners must make references clear in their work and identify sources used.

For P2, learners need to identify the sources of nutrients in a balanced diet. Learners must show that they know what nutrients are needed and in which foods nutrients can be found in appropriate quantities. They need to show knowledge of why it is necessary to have a variety of foods to ensure a balanced diet.

To achieve P3, learners need to develop their understanding from P2 to explain the effects of consuming excess or insufficient quantities of nutrients. It is not enough to say that eating too much fat will cause obesity; learners must explain why this is the case, building on their knowledge shown in P1.

For P4, evidence could be in the form of a written piece of work, such as a poster or information bulletin for staff, which describes the implications of using food supplements.

Evidence for P5 could be in the form of a report which explains the implications of using food additives.

For M1, learners need to compare the roles of the various nutrients in a balanced diet. This should build on P2 where learners have identified the sources of nutrients. Here learners need to compare and explain the importance of each nutrient to a balanced diet.

To achieve D1, learners need to assess the importance of each nutrient to the human digestive process. It is important that learners explain why some nutrients are needed on a daily basis, whereas others are stored by the body for future use.

P6 – P7 – M2

For P6, evidence could be in the form of a written piece of work, such as a poster or information bulletin for staff, which shows knowledge of the meaning of nutritional information on food labels.

Evidence for P7 could be in the form of a report stating the guidelines which must be followed when making nutritional claims on food labels.

For M2, learners need to explain how foods chosen in a selected three course menu, including dishes with widely differing contents of fat, sugar, salt and fibre, have an effect on the nutritional content of the final dish. It is not sufficient, for example, to explain that lean cuts of meat contribute less fat to the dish; learners also need to consider the use of fresh, pre-prepared or preserved foods.

P8 – P9 – M3

For P8, learners can use the knowledge gained for P2 to explain the nutritional requirements for at least two different age groups and situations, eg children in schools and adults in hospitals. It would be topical to discuss the changes to the school meal nutritional requirements and the decrease in fried foods and sugar. Learners also need to identify the requirements of groups with specific dietary needs, which can be achieved as part of the same task, eg describing the nutritional requirements of a child in a school who is a coeliac or diabetic.

Evidence for P9 could be in the form of a report explaining how certain diets can affect health.

For M3, learners need to use selected menus and assess the suitability of the menu to the situation and the given client. Learners need to identify areas of the menu that could be improved, and they should also take into account, and comment on, the constraints such as time, skills available and costs.

P10 – P11 – P12 – M4

To achieve P10, learners should source at least four menus or recipes for a range of customers and special dietary needs and explain how these provide meals to meet the dietary needs of individuals. These can be sourced from magazines, hospitals, schools etc.

For P11, learners need to state the effects of different food preparation and cooking methods, for example marinating, cooking in fat or cooking in water, on different nutrients.

For P12, learners have to describe methods of promoting healthier food choices. Learners should identify what changes have taken place in customer demand, such as the increased popularity of organic and free-range foods, and the ways in which the media promote these trends. Learners should identify at least one government initiative, eg 'five a day', and explain its impact on healthy eating and recent changes to educational policy. Learners must also discuss the quality and range of manufactured food available to the caterer and examples of their place in the industry.

To achieve M4, learners need to discuss in some detail how important the different factors and published advice are in raising public awareness and changing habits and how important this is for public health. Learners need to judge the evidence available and conclude how successful the changes and initiatives are in a broader health context. For example, they might consider how successful changes in school meals policy have been from a public health perspective and whether the current changes are having an impact on wider eating habits of children. Learners could also consider the controversy surrounding organic and free-range food: it may taste better, but is it really healthier?

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, P2, P3, P4, P5, M1, D1	The Importance and Principles of Balanced Diets	Learners take on the role of a team manager in the head office of a large contract catering business, which has just taken over the catering for an oil rig, and they need to ensure that the team can provide a balanced diet to the staff so create a website for them.	A website for the team describing the nutrients required for a balanced diet.
P6, P7, M2	Food Labelling and Nutritional Information	Learners continue in the role of team managers. As the team also needs to be trained in nutritional information on food labels, the team manager also prepares a presentation for them.	A presentation describing nutritional information on food labels.
P8, P9, M3	Special Dietary Needs	Learners continue in the role of team managers. Some of the staff in the oil rig have special dietary needs. To ensure that the catering team can cater for special dietary requirements the team manager creates a presentation for them.	A presentation explain the specific dietary needs of different groups of people and how certain diets can affect health.
P10, P11, P12, M4	How to Plan and Promote Healthier Food Choices	Learners continue in the role of team managers and create a website on how to plan and promote healthier food choices.	A website for the team raising awareness on how to plan and promote healthier food choices.

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

This unit forms part of the *BTEC Hospitality* suite. This unit has particular links with the following unit titles in the Hospitality suite:

Level 2	Level 3
Investigate the Catering and Hospitality Industry	The Hospitality Industry
Products, Services and Support in the Hospitality Industry	European Food
Healthier Food and Special Diets	Asian Food
Prepare, Cook and Finish Food	Contemporary World Food

Essential resources

Learners must have access to sufficient library and other resources that provide information on nutrition. Access to the internet will enable learners to research many aspects of this unit.

Employer engagement and vocational contexts

It would be appropriate for learners to have the opportunity to have a discussion with an expert in the nutrition field, for example, a representative of the health service, or a specialist chef from a hospital, or even a coach from an appropriate sports team.

Indicative reading for learners

Textbooks

Bender A and Bender D – *Food Tables and Labelling* (Oxford University Press, 1999) ISBN 9780198328148

Food Standards Agency – *Catering for Health: A Guide for Teaching Healthier Catering Practices* (Stationery Office Books, 2002) ISBN 9780112430674

Food Standards Agency – *Manual of Nutrition, 11th Edition* (Stationery Office Books, 2008) ISBN 9780112431169

Smith M and Morton D – *The Digestive System* (Churchill Livingstone, 2001) ISBN 9780443062452

Websites

www.bbc.co.uk/health/healthy_living

BBC Health

www.bpassoc.org.uk

Blood Pressure Association

www.food.gov.uk

Food Standards Agency

www.nice.org.uk

National Institute for Health and Clinical Excellence

www.nutrition.org.uk

British Nutrition Foundation

www.people1st.co.uk

People 1st – Sector Skills Council for Hospitality, Leisure, Travel and Tourism

www.whatsinsideguide.com

What's Inside Guide – guideline daily amounts

Delivery of personal, learning and thinking skills

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 ...
Independent enquirers	P3 evaluating the effects of nutrients on health [IE 3] P6 describing the meaning of nutritional information on food labels [IE 4] P8 explaining the specific dietary needs of different groups of people [IE 2] P11 stating the effects of food processes on nutrient content [IE 3].

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 ...
Effective participators	analysing the suitability of menus for their given situations, making suggestions for improvements [EP 4].

● Functional Skills – Level 2

Skill	When learners are ...
ICT – Use ICT systems	
Select, interact with and use ICT systems independently for a complex task to meet a variety of needs	
Use ICT to effectively plan work and evaluate the effectiveness of the ICT system they have used	
Manage information storage to enable efficient retrieval	
Follow and understand the need for safety and security practices	
Troubleshoot	
ICT – Find and select information	
Select and use a variety of sources of information independently for a complex task	
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	
ICT – Develop, present and communicate information	
Enter, develop and format information independently to suit its meaning and purpose including: <ul style="list-style-type: none"> ● text and tables ● images ● numbers ● records 	
Bring together information to suit content and purpose	
Present information in ways that are fit for purpose and audience	
Evaluate the selection and use of ICT tools and facilities used to present information	
Select and use ICT to communicate and exchange information safely, responsibly and effectively including storage of messages and contact lists	

Skill	When learners are ...
Mathematics	
Understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations	
Identify the situation or problem and the mathematical methods needed to tackle it	
Select and apply a range of skills to find solutions	
Use appropriate checking procedures and evaluate their effectiveness at each stage	
Interpret and communicate solutions to practical problems in familiar and unfamiliar routine contexts and situations	
Draw conclusions and provide mathematical justifications	
English	
Speaking and listening – make a range of contributions to discussions and make effective presentations in a wide range of contexts	
Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions	
Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively	<p>reporting on the nutritional content of the menu</p> <p>reporting on excess and lack of nutrients</p> <p>writing a booklet on the nutritional requirements of a balanced diet.</p>