

601/4552/3 WJEC Level 3 Applied Diploma in Food Science and Nutrition

The aims and objectives of Level 3 diploma in food science and nutrition are to enable students to gain;

- skills to ensure their own dietary health and well being
- a range of generic and transferable skills
- the ability to solve problems
- the skills of project-based research, development and presentation
- the ability to apply mathematical and ICT skills
- the fundamental ability to work alongside other professionals, in a professional environment
- the ability to apply learning in vocational contexts

Assessment objectives:

Learning Outcomes	Assessment Criteria	Marks	%
LO1 Understand the importance of food safety	AC1.1 Explain how individuals can take responsibility for food safety	14-22	15-25%
	AC1.2 Explain methods used by food handlers to keep themselves clean and hygienic		
	AC1.3 Explain methods used to keep work areas clean and hygienic		
	AC1.4 Analyse risks associated with food safety		

Learning Outcomes	Assessment Criteria	Marks	%
LO2 Understand properties of nutrients	AC2.1 Explain how nutrients are structured	14-22	15-25%
	AC2.2 Classify nutrients in foods		
	AC2.3 Assess the impact of food production methods on nutritional value		
LO3 Understand the relationship between nutrients and the human body	AC3.1 Describe functions of nutrients in the human body	22-31	25-35%
	AC3.2 Explain characteristics of unsatisfactory nutritional intake		
	AC3.3 Analyse nutritional needs of specific groups		
	AC3.4 Assess how different situations affect nutritional needs		
LO4 Be able to plan nutritional requirements	AC4.1 Evaluate fitness for purpose of diets	22-31	25-35%
	AC4.2 Calculate nutritional requirements for given individuals		
TOTAL		90	100%

Introduction:

“An understanding of food science and nutrition is relevant to many industries and job roles. Care providers and nutritionists in hospitals use this knowledge, as do sports coaches and fitness instructors. Hotels and restaurants, food manufacturers and government agencies also use this understanding to develop menus, food products and policies that support healthy eating initiatives. Many employment opportunities within the field of food science and nutrition are available to graduates.”

The layout and structure of the course is as follows;

Year 12			Year 13			
Unit 1 Meeting nutritional needs of specific groups			Unit 2 Ensuring Food is safe to eat		Unit 3 Experimenting to solve a food problem	
Learning Outcomes			Learning Outcomes		Learning Outcomes	
LO1: Understand the importance of food safety LO2: Understanding properties of nutrition LO3: Understand the relationship between nutrients and the human body LO4: Be able to plan nutritional requirements LO5: Be able to plan the production of complex dishes LO6: Be able to cook complex dishes			<ul style="list-style-type: none"> ▪ Micro-organisms ▪ Food related illness ▪ Food safety management 		<ul style="list-style-type: none"> ▪ Scientific properties of food ▪ Food production problems ▪ Scientific changes in Food 	
Unit 1 Assessment			Unit 2 Assessment		Unit 3 Assessment	
Theory Exam	LO 1-4	50%	Controlled Assessment (Completed online in school)	25%	NEA (coursework)	25%
Controlled Assessment <i>(Written report to support practical – carried out in school)</i>	LO 1-5	50%				
Practical Exam <i>(3-Course Meal)</i>	LO 6					

Year / term	Unit of work	Assessment and practical skill assessment (2 hours per week)																						
Year 12 Autumn Term	<p><u>LO1: Understand the importance of food safety</u></p> <p>Chapter 1 Micro-organisms and Food Safety</p> <ul style="list-style-type: none"> • Bacteria • Moulds • Yeast • Viruses • Food Spoilage • Contamination + cross contamination • Food poisoning • Implications of food poisoning for consumers and businesses <p>Chapter 2 Food safety – allergens and food-related illnesses</p> <ul style="list-style-type: none"> • Food allergies • Food allergens • Food intolerances/sensitivity • Coeliac disease • Implications for consumers and businesses <p>Chapter 3 Food safety in practise</p> <p>Legislation</p> <ul style="list-style-type: none"> • Systems of compliance: HACCP • Food premises • Responsibilities of food handlers • Important temperatures in catering • Protective clothing • Training <p><u>LO2: Understanding properties of nutrition</u></p> <p>Chapter 4 Classifications of Nutrients</p> <ul style="list-style-type: none"> • Phytochemicals • Sources of nutrients • Nutritional values • Nutritional labelling • Nutrient density • Biological value 	<p>Focused practical tasks Textbook activities Practice exam questions</p> <table border="1" data-bbox="1205 300 2033 1423"> <tbody> <tr> <td data-bbox="1205 300 1442 480">Pastry</td> <td data-bbox="1442 300 2033 480">Puff, filo, pate sucree, choux, hot water crust Samosas, strudels, spring rolls, tart au citron, fruit tartlets, savoury pie, jalousie, cheese gougeres, quiche, chocolate tart, custard tart, tarte tatin, millefeuilles.</td> </tr> <tr> <td data-bbox="1205 480 1442 587">Stocks and Soups</td> <td data-bbox="1442 480 2033 587">Home-made chicken/vegetable stock, soups showing vegetable cuts, leek and potato, minestrone, French onion. Cold and Hot soups.</td> </tr> <tr> <td data-bbox="1205 587 1442 678">Bread</td> <td data-bbox="1442 587 2033 678">Enriched, shaping, focaccia, naan, flat bread, ciabatta rolls, grissini sticks, panettone.</td> </tr> <tr> <td data-bbox="1205 678 1442 753">Sauces</td> <td data-bbox="1442 678 2033 753">Reduced, roux, béchamel, hollandaise, crème anglaise.</td> </tr> <tr> <td data-bbox="1205 753 1442 895">Meat</td> <td data-bbox="1442 753 2033 895">Pot roasting, roasting, casseroles, carbonade of beef, stroganoff, curry, stuffed pork tenderloin, pates, steak and mushroom pie, sweet and sour ribs.</td> </tr> <tr> <td data-bbox="1205 895 1442 970">Chicken</td> <td data-bbox="1442 895 2033 970">Boning, make stock for soups, stuffing and coating, chicken kiev, curries.</td> </tr> <tr> <td data-bbox="1205 970 1442 1112">Fish</td> <td data-bbox="1442 970 2033 1112">Filleting, stuffed and rolled, whole fish dishes, fish pie, thai fish cakes, salmon mousse (gelatine), salmon en croute, en papillotes, terrine.</td> </tr> <tr> <td data-bbox="1205 1112 1442 1254">Vegetables</td> <td data-bbox="1442 1112 2033 1254">Turning, puree, cuts, soups, lasagne, stuffed, potato croquettes, gratin dauphinoise. Vegetable side dishes/accompaniments; e.g. honey roasted parsnips, braised red cabbage.</td> </tr> <tr> <td data-bbox="1205 1254 1442 1305">Pasta and rice</td> <td data-bbox="1442 1254 2033 1305">Fresh with flavours, shapes, ravioli, risotto.</td> </tr> <tr> <td data-bbox="1205 1305 1442 1380">Pulses</td> <td data-bbox="1442 1305 2033 1380">Soya mince, salads, curry, quinoa salad. Use of dried as well as canned.</td> </tr> <tr> <td data-bbox="1205 1380 1442 1423">Salad dressings</td> <td data-bbox="1442 1380 2033 1423">Mayonnaise, vinaigrette.</td> </tr> </tbody> </table>	Pastry	Puff, filo, pate sucree, choux, hot water crust Samosas, strudels, spring rolls, tart au citron, fruit tartlets, savoury pie, jalousie, cheese gougeres, quiche, chocolate tart, custard tart, tarte tatin, millefeuilles.	Stocks and Soups	Home-made chicken/vegetable stock, soups showing vegetable cuts, leek and potato, minestrone, French onion. Cold and Hot soups.	Bread	Enriched, shaping, focaccia, naan, flat bread, ciabatta rolls, grissini sticks, panettone.	Sauces	Reduced, roux, béchamel, hollandaise, crème anglaise.	Meat	Pot roasting, roasting, casseroles, carbonade of beef, stroganoff, curry, stuffed pork tenderloin, pates, steak and mushroom pie, sweet and sour ribs.	Chicken	Boning, make stock for soups, stuffing and coating, chicken kiev, curries.	Fish	Filleting, stuffed and rolled, whole fish dishes, fish pie, thai fish cakes, salmon mousse (gelatine), salmon en croute, en papillotes, terrine.	Vegetables	Turning, puree, cuts, soups, lasagne, stuffed, potato croquettes, gratin dauphinoise. Vegetable side dishes/accompaniments; e.g. honey roasted parsnips, braised red cabbage.	Pasta and rice	Fresh with flavours, shapes, ravioli, risotto.	Pulses	Soya mince, salads, curry, quinoa salad. Use of dried as well as canned.	Salad dressings	Mayonnaise, vinaigrette.
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- Glycaemic index
- The complementary interactions of nutrients

Chapter 5 The structure of nutrients

- Proteins
- Lipids
- Carbohydrates
- Vitamins
- Minerals
- Water

Chapter 6 Food production methods and their effects on nutrients

- Effects of processing on nutrient stability
- Effects of cooking methods on nutrients
- Food preservation methods and effects on nutrient stability
- Food processing, packaging, storage methods
- Antioxidants
- Fortification of foods
- Cholesterol- lowering food products

LO3: Understand the relationship between nutrients and the human body

Chapter 7 Functions of Nutrients in the body

- Growth and development
- Energy production
- Regulating metabolism

Chapter 8 Unsatisfactory nutritional intake

- Obesity
- Cardiovascular disease
- Diabetes
- Dental disease
- Cancer
- Digestive disorders
- Rickets
- Anaemia
- Skin disorders

Desserts	Pannacota, tarte au citron, meringue desserts - roulade, chocolate fondante, jalousie, gelatine cheesecakes and mousses, profiteroles, macaron dessert, genoise sponge.
Accompaniments	Spun sugar, tuile biscuits, parmesan thins, biscoti, seeded crackers, complex garnishes from fruit, vegetables and flowers.

	<p>Chapter 9 Nutritional needs of specific groups</p> <ul style="list-style-type: none"> • Food environments • Calculating nutritional needs • Life stages • Activity levels • Sports nutrition • Medical conditions • Culture 	
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Year / term	Unit of work	Assessment
<p>Year 12 Spring Term</p>	<p>LO4: Be able to plan nutritional requirements</p> <p>Chapter 10 Analysis of Diets</p> <ul style="list-style-type: none"> • Eating patterns • Dietary guidance • Fitness for purpose of different diets • Sustainable diets <p><u>Launch of UNIT 1 controlled assessment. Students to work through the following AC's.</u></p> <p>Section 1 AC2.1 Explain how nutrients are structured. AC2.2 Classify nutrients in foods. AC3.1 Describe functions of nutrients in the human body. AC3.2 Explain characteristics of unsatisfactory nutritional intake.</p> <p>Section 2 AC3.3 Analyse nutritional needs of specific groups. AC 4.2 Calculate nutritional requirements for given individuals. AC3.4 Assess how different situations affect nutritional needs.</p> <p>Section 3 4.1 Evaluate fitness for purpose of diets</p>	<p>Research tasks Focused Practical outcomes Textbook activities Practice Questions and Mock Papers</p> <p>UNIT 1 CONTROLLED ASSESSMENT UNIT 1 EXAM</p>

	<p>Section 4 AC5.1 Interpret recipes for complex menus.</p> <p>Section 5 AC2.3 Assess the impact of food production methods on nutritional value.</p> <p>Section 6 AC1.1 Explain how individuals can take responsibility for food safety. AC1.2 Explain methods used by food handlers to themselves clean and hygienic. AC1.3 Explain methods used to keep work areas clean and hygienic.</p> <p>Section 7 – Time plan AC1.4 Analyse risks associated with food safety. AC5.2 Plan production of dishes. AC6.6 Use food safety practices. AC6.7 Monitor food production AC6.3 Assure quality of materials to be used in food preparation.</p> <p>Section 9 AC6.1 Use tools in preparation of commodities AC6.2 Use advanced techniques in cooking of commodities.</p> <p>Section 10 AC 6.5 Present cooked complex dishes using advanced presentation techniques.</p> <p>Mock Exam and Revision</p>	
<p>Super Curricular</p>	<p>Read, Watch, Do tasks provided on google classroom Documentaries, articles, books and related practical activities</p>	

Year / term	Unit of work	Assessment
<p>Year 12</p> <p>Summer Term</p>	<p><u>UNIT 1 practical exam</u></p> <p>Revision period for UNIT 1 written exam. Revising key knowledge learnt in autumn and preparation for section C of written exam.</p> <p><u>Start of UNIT 3</u></p> <p>LO1 The scientific properties of food</p> <ul style="list-style-type: none"> • The properties of food and how they are changed 	<p>Practice Questions and mock papers</p> <p>Textbook activities</p>
<p>Super Curricular</p>	<p>Read, Watch, Do tasks provided on google classroom</p> <p>Documentaries, articles, books and related practical activities</p>	

Year / term	Unit of work	Assessment
Year 13 Autumn Term	<p>LO3 Chapter 6 Solving food production problems</p> <ul style="list-style-type: none"> • Food production systems and potential production problems • Solving food production problems <p>LO2 Chapter 7 Scientific investigation into changes in food</p> <ul style="list-style-type: none"> • Types of scientific investigations • Conducting scientific investigations and experiments. <p><u>UNIT 3- CONTROLLED ASSESSMENT TASK</u></p>	<ul style="list-style-type: none"> • Mock examination review from year 12 • Textbook activities • Exam practice booklet • Weekly home learning activities • Exam questions • Keyword spelling tests <p>EXPERIMENTAL PRACTICAL WORK</p>
Super Curricular	Read, Watch, Do tasks provided on google classroom Documentaries, articles, books and related practical activities	

Year / term	Unit of work	Assessment
Year 13 Spring Term	<p>Unit 2 - Ensuring food is safe to eat</p> <p>LO1 Chapter 1 How micro-organisms affect food safety</p> <ul style="list-style-type: none"> • The effects of environmental conditions on microbial growth and reproduction. • How micro-organisms affect food quality • How preservation methods prevent the growth of micro-organisms <p>LO2 Chapter 2 How food can cause illness</p> <ul style="list-style-type: none"> • The physiological basis and effects of food poisoning • The physiological basis of food allergies and food intolerances <p>LO3 Chapter 3 How food safety is managed in different situations</p> <ul style="list-style-type: none"> • The growth of micro-organisms in different environments • Control measures used to minimise food safety risks <p>UNIT 2 ONLINE ASSESSMENT</p>	<ul style="list-style-type: none"> • Past exam papers • Textbook activities • Exam practice booklet • Exam questions • Keyword spelling tests <p>UNIT 2 ONLINE ASSESSMENT</p>