



Year 12 & 13 Food Science and Nutrition – Outline Programme of Study

Year 12	
Big ideas/ topics	1 unit Meeting the Nutritional Needs of Different Groups 2 assessments - 1 internal - course work (3.5hr practical exam + 12 hours research + 5 hours review) 1 external 1.45 hr exam (short answer questions, mid length questions + case study - worth 40% of marks)
Key Knowledge	Main areas of study - differing forms of, structure of (primary, secondary, tertiary) , uses of, effect of deficiency/ excess of the following - Proteins, Carbohydrates, fats, retinol, beta carotene, tocopherol, phyloquinone, cholecalciferol, thiamine, riboflavin, niacin, pyidoxine, folate, cobalamin, ascorbic acid, calcium, iron, phosphorous, magnesium, sodium, iodine, zinc, fluoride, selenium, water, dietary fibre. Meal planning / nutritional needs of - main groups of people - toddlers, school children, teenagers, athletes, vegetarians, vegans, pregnant women, adult males, adult females - pre + post menopausal, older people, medical issues

Year 13	
Big ideas/ topics	Year 13 - 2 units - Unit 2 Microbiology + Unit 3 Solving Potential Problems in Production Systems 2 forms of assessment - unit 2 online external exam + unit 3 internal assessed coursework.
Key Knowledge	Unit microbiology - classification of micro-organisms, pathogens, spoilage organisms, beneficial organisms, reproduction of, characteristics of, motility, spore formation of, toxins, factors affecting growth of, controlling the growth of, fungi, moulds, yeasts, bacteria. Food poisoning - chemical, biological, bacterial - characteristics of infection, means of spreading, foods commonly associated with the following - salmonella, clostridium perfringens, staphylococcus aureus, bacillus cereus, clostridium botulinum, campylobacter jejuni listeria monocytogenes + escherichia coli. Unit 4 - Solving Food Production problems Students are allowed to select 1/3 real life scenarios - typically - "a small baker has received feedback regarding his seasonal buns - the icing is too gritty, the dough is too dense, the buns lack flavour" The student then has to research the properties of the ingredients used, explain the variables which affect the physical properties, set the success criteria for the scientific investigations then plan, develop and carry out a series of experiments to solve these problems, with supporting data, then propose practical solutions and make recommendations to the baker - followed by a scientific explanation why these changes would achieve success and a review of the suitability of the investigative methods.

Further information and reading list

- The exam board used for the is https://www.wjec.co.uk/qualifications/food-science-and-nutrition-level-3/#tab_keydocuments

British Nutrition Foundation

- <https://www.nutrition.org.uk/healthy-sustainable-diets/>

Useful Books

- WJEC Level 3 Certificate in Food Science and Nutrition by Anita Tull, Jillian Bryant
WJEC Level 3 Diploma in Food Science and Nutrition by Anita Tull

Ways to support and extend student learning in this subject



Support for pupils

The greatest challenge for many students is the quantity of subject content that is necessary to cover in the course. Our students tell us that breaking this down into manageable chunks (often in the form of flashcards) and quizzing / consolidating little and often is the best way of keeping on top of what has been covered. We also recommend applying that knowledge to exam-style questions as often as possible

Revision and lesson materials will be on Google Classroom.

Stretch and Challenge Pupils.

It is important to have lots of practice exam questions and scenarios to give a wider extension of exam practice.

Some past papers are available to download from the WJEC website:

https://www.wjec.co.uk/qualifications/food-science-and-nutrition-level-3/#tab_pastpapers

You can do a past paper with the exam board principal examiner talking you through it. These materials offer practical hints and tips on how to effectively approach questions in examination papers.

https://resources.wjec.co.uk/Pages/ResourceSingle.aspx?rliid=3392&_ga=2.268976884.40604492.1679841985-2020257377.1634829375

Encourage students to attend the extra scheduled revision and coursework sessions.

Revision cards are very useful for knowledge. These can be created by the student or you can purchase pre-printed flash cards. Identify key words that cannot not yet be recalled or spelt correctly. Create flashcards and complete regular quizzing at home.