

Progression – Food Science and Nutrition

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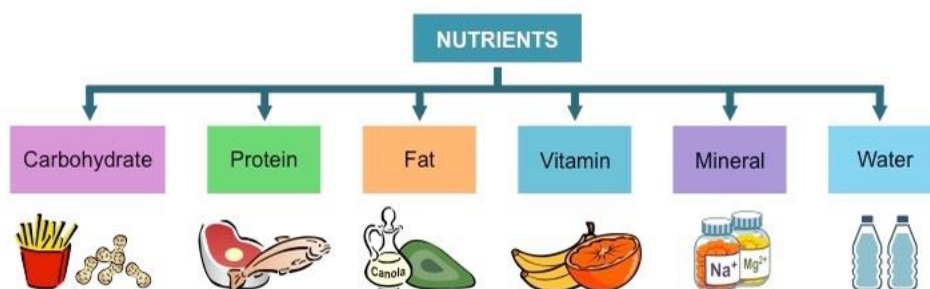
1. Thinking of studying Food Science and Nutrition at Worcester Sixth Form College?

We teach the **WJEC** specification.

Here is a brief summary of the topics we cover over the two-year course. If you want to find out more about each of these topics, you can find the full specification on the WJEC website:

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

- **Importance of food safety** – how individuals can take responsibility, personal hygiene, kitchen hygiene and kitchen design
- **Microbiology** - micro-organisms responsible for food spoilage /food poisoning
- **Risks associated with food safety** – high risk foods, contamination, allergens and implications to both consumers and businesses
- **Protection, legislation and enforcement** – food law and role of Environmental Health Departments/Food Inspectors
- **Structure, classification and function of nutrients** – Proteins, Lipids, Carbohydrates, Minerals, Vitamins and Water
- **Impact of food production methods on nutritional value** - cooking methods, packaging + storage methods, preservation methods and fortification
- **Characteristics of unsatisfactory nutritional intake** – e.g. obesity, digestion problems, anaemia, skin conditions, dental problems, coeliac disease, rickets
- **Nutritional needs of specific groups** – different life stages, medical conditions, culture and lifestyle choices
- **Dietetics** – Dietary reference values, government guidelines, BMR, BMI, etc used to evaluate fitness for purpose of diets
- **Practical Work** – use of recipes to plan and produce complex dishes/menus, high level skills and techniques acquired through regular practical work



2. Tasks to complete before September

In order to prepare for the course, you need to complete the tasks laid out in this booklet.

Before you begin, find a folder to store this Booklet and any additional notes that you make on the tasks. **You need to bring in this folder at the start of the course.** Make sure that your notes are neat and well-organised!

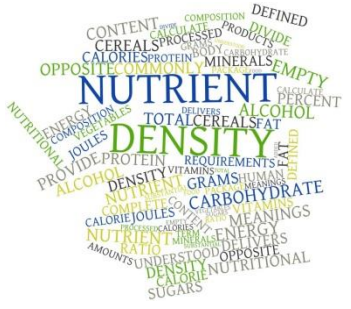
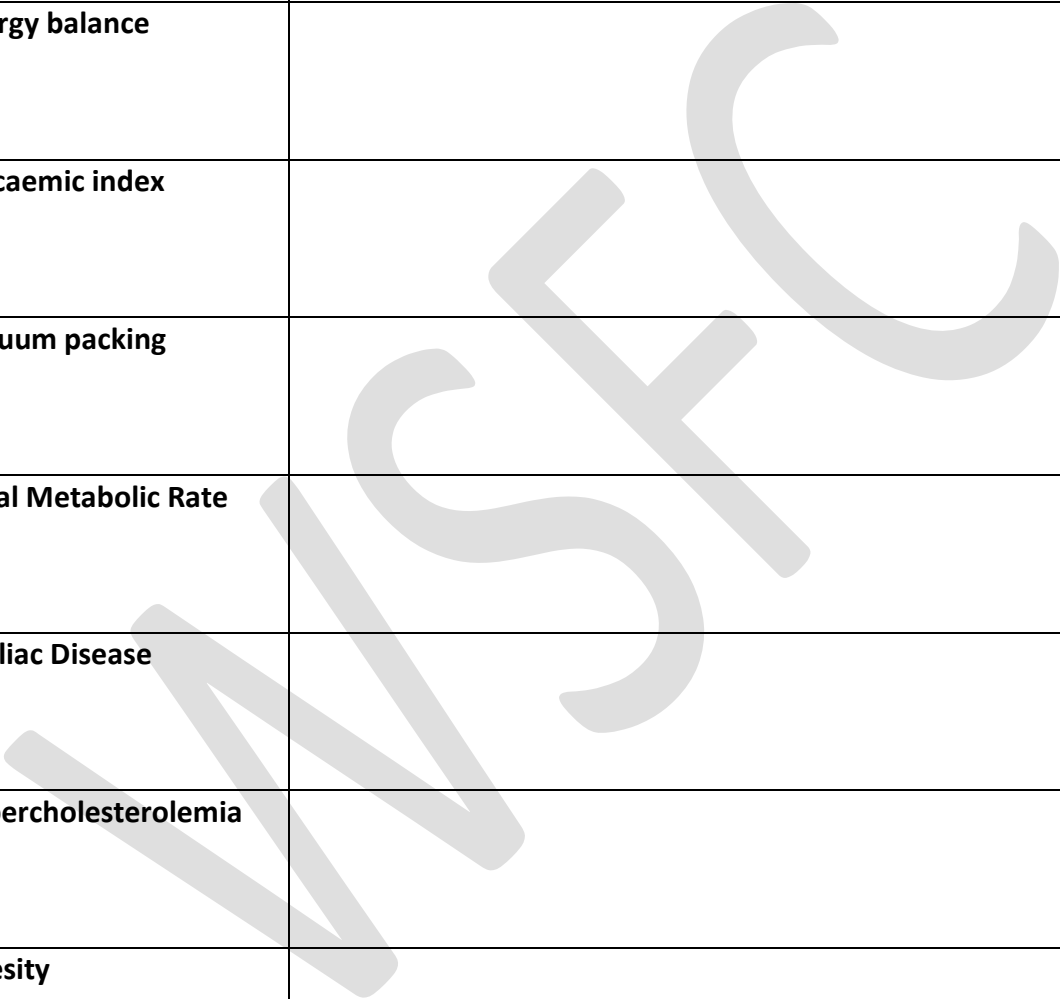
Some of the content in these tasks is not directly assessed in this Food Science and Nutrition course, but it will give you a good range of background knowledge with which to begin your studies in this field.



Task 1: Define the following key terms :

Macro-nutrient	
Micro-nutrient	
Allergen	
High-risk food	
Cross-contamination	
Nutrient density	
Aseptic Food Processing	
Dietary Reference Values	
Pathogen	
Rickets	
Anaemia	

Food fortification	
Malnutrition	
Protein complementation	
Energy balance	
Glycaemic index	
Vacuum packing	
Basal Metabolic Rate	
Celiac Disease	
Hypercholesterolemia	
Obesity	





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Task 2: Below is a recipe for Lasagne:

6 sheets of white lasagne pasta
100g diced pancetta
750g minced beef
1 tin chopped tomatoes
2 garlic cloves
1 onion

1 beef stock cube
2 tbsp oil
100g parmesan cheese
300ml milk
50g flour

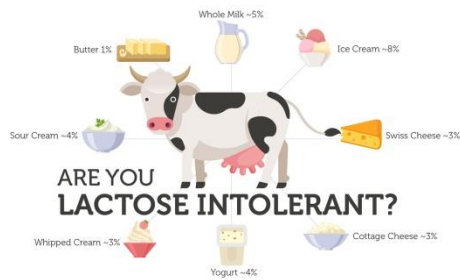


In the following table describe, in detail, how you could alter the recipe to make it:

a) higher in fibre	
b) lower in fat	
c) lower in salt	

d) suitable for someone who has Coeliac Disease	
e) suitable for someone who is a Lacto-ovo vegetarian	
f) suitable for someone who is a Vegan	
g) suitable for someone who is Lactose intolerant	

h) suitable for someone who is Muslim



Task 3: Carry out some research on food safety legislation. Demonstrate your knowledge and understanding of The Food Safety Act 1990 and The Food Safety and Hygiene (England) Regulations 2013 by producing an information document (in any format). The document should also include a clear outline of what HACCP means/entails for food businesses.



Task 4: Choose three of the following groups of the population and create an information document outlining the nutritional and dietary needs of that specific group of the population. Give examples of foods which would be beneficial in their diet and others which need to be regulated, with explanations.

Choose from three from the following:

1. Childhood
2. Adulthood
3. Later Adulthood
4. Pregnant Women
5. Vegans
6. People with Diabetes

Useful websites:

BBC Health: www.bbc.co.uk/health/healthyliving

British Nutrition Foundation: www.nutrition.org.uk

Department for Health: www.dh.gov.uk

Food and Drink Federation: www.fdf.org.uk

Food Standards Agency: www.food.gov.uk

NHS: <http://www.nhs.uk/livewell/healthy-eating/Pages/Healthyeating.aspx>

Physical Activity and Nutrition Wales: www.physicalactivityandnutritionwales.org.uk

Vegetarian Society: www.veg.soc.org.uk

BBC recipes <https://www.bbc.co.uk/food/recipes>

Good Food Recipes www.bbcgoodfood.com

Useful books:

WJEC Level 3 Certificate in Food Science and Nutrition A Tull/J Bryant ISBN 9781911208587
Bender, D. (2002). An Introduction to Nutrition and Metabolism (3rd Ed). Oxford, UK: Taylor and Francis Ltd

Fox and Cameron's Food Science, Nutrition and Health (7TH edition) Hodder Arnold Publication

Foskett D, Campbell J (2008) Practical Cookery (11th Ed) Hodder Education

3. Optional Tasks

- i. **Refer back to Task 4** - Create an information document for the 3 remaining groups of the population that were left out when you completed Task 4
- ii. **Food Stories in the News** - Find two food related stories that are currently in the news. Carry out some research on these topics and prepare a 4 slide powerpoint on each, giving an overview of the story and the implications on individuals, where relevant, such as consumers/producers/retailers/businesses.
- iii. **Menu Planning** - Select one of the scenarios below and complete the activity.

Nursery scenario

The cook at your local children's nursery (ages 2 to 5) has received comments from parents that the current menu is both unhealthy and repetitive. The cook is, therefore, planning to make changes to the menu to ensure it is healthy and appealing to the children.

Elderly Residential Home

The cook at a local Elderly residential home has received comments that the current menu is unimaginative. The cook is therefore planning to make changes to the menu to ensure that dishes meet the nutritional needs of the elderly and have traditional appeal.

Plan a weekly menu; showing relevant consideration of the nutritional needs of the target group. The menu must include breakfast, mid-morning snack, lunch, mid-afternoon snack and tea.

