The Sutton Academy

Knowledge Rich Curriculum Plan

Year 12 Food Science & Nutrition

Date	Theory (Assessment Criterion)	Practical	Intended Knowledge / Learning Objective	Tiered Vocabulary (Tier 2 / Tier 3 with definitions)	Difficult Concepts / Teacher Notes / Suggested Scripting	Independent Study
08/09/2025	AC1.1 Explain how individuals can take responsibility for food safety	Pastry Dish	Understand roles of employers/employees in maintaining food safety. Link responsibilities to personal practice in pastry making.	**Responsibility**: Duty to act safely **Compliance**: Following rules **Induction**: Initial training	Discuss employer/employee examples. Link safety checks to pastry work. Prompt: *"How do you prove you're working safely?"*.	Write how they will *personally* show responsibility for food safety in their chosen menu's production.
15/09/2025	AC1.2 Explain methods used by food handlers to keep themselves clean and hygienic	Bread Dish	Explain personal hygiene rules (handwashing, clothing). Apply during bread making.	**Hygiene**: Keeping clean **Contamination**: Unwanted transfer of harmful substances **Regulation**: Official rules	Model handwashing. Discuss clean uniform. Explain why bread dough risks cross-contamination.	Describe personal hygiene steps they will follow when making dishes on their menu.
22/09/2025	AC1.2 Explain methods used by food handlers to keep themselves clean and hygienic	Meat/Chicken Dish	Reinforce personal hygiene. Discuss risk of bacteria with meat/poultry. Apply safe handling in dish.	**Pathogen**: Harmful bacteria **Cross-contamination**: Spread between foods **Protective Clothing**: Aprons, gloves	Emphasise raw meat safety. Scaffold writing on hygiene rules. Model safe chopping board use.	Plan safe handling of raw ingredients for their chosen brief (e.g. chicken for spa menu).

29/09/2025	AC1.3 Explain methods used to keep work areas clean and hygienic	Fish Dish	Identify ways to keep work areas hygienic (cleaning, signage, layout). Apply while preparing fish safely.	**Work Area**: Food preparation space **Cleaning Schedule**: Planned cleaning **Signage**: Visual safety instructions	Model cleaning methods. Discuss fish cross-contamination. Reinforce signage and layout points.	Create a cleaning checklist for their kitchen area for their chosen brief.
06/10/2025	AC1.3 Explain methods used to keep work areas clean and hygienic	Vegetable Dish	Reinforce work area hygiene. Emphasise waste disposal and avoiding contamination in raw prep.	**Waste Disposal**: Correct removal of rubbish **Hygienic Design**: Layout for easy cleaning **Sanitise**: Kill bacteria	Prompt: *"How would you prove this area is clean?"*. Model bin use, cleaning sprays, correct chopping boards.	Write how they will organise their workspace for their menu's preparation.
13/10/2025	AC1.4 Analyse risks associated with food safety	Seasonal Dish	Analyse risks (bacteria, allergens, spoilage). Apply risk reduction strategies during seasonal dish prep.	**Risk Assessment**: Identifying hazards **Hazard**: Potential danger **Implications**: Effects on consumers/businesses	Use real case study (e.g. allergen alerts). Model writing analysis of risk in practical.	Identify 3 key risks for their menu. Explain how they will reduce these risks in production.
20/10/2025	AC1.4 Analyse risks associated with food safety	AC1.4 Analyse risks associated with food safety	Continue analysing risks. Write clear explanations of how risks are managed in kitchen practice.	(Same as above)	Provide sentence starters: *"One risk is... This is managed by..."*. Review previous work for improvement.	Complete written analysis of food safety risks for their chosen brief, ready to submit for assessment.
03/11/2025	AC2.1 Explain how	Pastry Dish	Understand chemical structure of macronutrients	**Macronutrient**: Needed in large amounts	Use diagrams of nutrient molecules. Break down	Describe the key nutrients in their chosen dish and how these are structured.

	nutrients are structured		(carbs, proteins, fats) and micronutrients (vitamins, minerals).	**Micronutrient**: Needed in small amounts **Structure**: How something is built	complex terms. Link to pastry ingredients (e.g. fats).	
10/11/2025	AC2.1 Explain how nutrients are structured	Bread Dish	Reinforce nutrient structures. Focus on starch in bread, gluten proteins, and vitamins/minerals in flour.	**Starch**: Complex carbohydrate **Gluten**: Protein in wheat **Vitamin/Mineral**: Essential micronutrients	Show cross-sections of bread ingredients. Explain gluten structure. Model answers.	Identify nutrients in their chosen bread or carb-based dish and explain their structure.
17/11/2025	AC2.2 Classify nutrients in foods	Meat/Chicken Dish	Classify nutrients in practical ingredients: proteins, fats, carbs, vitamins, minerals, water, fibre.	**Classification**: Sorting into groups **Protein**: Builds body tissues **Fibre**: Supports digestion	Use food labels. Classify chicken dish ingredients. Explain labelling.	Classify the nutrients in their chosen main dish for the menu.
24/11/2025	AC2.2 Classify nutrients in foods	Fish Dish	Continue classifying. Focus on fish proteins, healthy fats (omega-3), micronutrients.	**Omega-3**: Healthy fat **Micronutrient**: Vitamins/minerals **Carbohydrate**: Energy source	Use real packaging. Model sorting nutrients. Explain health claims.	Create a nutrient classification table for their chosen menu dish.
01/12/2025	AC2.3 Assess the impact of food production methods on nutritional value	Vegetable Dish	Explain how processing/cooking changes nutrients (heat loss, vitamin breakdown, absorption changes).	**Processing**: Changing raw ingredients **Nutritional Value**: Nutrient content of food **Loss**: Reduction of nutrients	Discuss boiling vs steaming. Show examples. Model writing comparisons.	Write how their menu dish preparation might change the nutritional value and why.
08/12/2025	AC2.3 Assess the impact of food production methods on	Seasonal Dish	Continue assessing production impact. Link seasonal ingredients to nutrient quality and preparation method.	**Seasonal**: Available at certain times **Retention**: Keeping nutrients **Degradation**: Breakdown over time	Use local/seasonal examples. Discuss food miles. Model writing “pros/cons” of preparation.	Analyse how their dish’s cooking methods will affect its nutrients and how they’ll plan for best results.

	nutritional value					
15/12/2025	AC3.1 Describe functions of nutrients in the human body	AC3.1 Describe functions of nutrients in the human body	Explain how proteins, carbs, fats, vitamins, minerals, water and fibre support health and body functions.	**Function**: Role or job **Energy**: Fuel for the body **Repair/Growth**: Building tissues **Regulation**: Controlling body processes	Break down each nutrient's role. Link to exam question practice.	Write clear functions of nutrients for their chosen menu dish and explain why they matter for their target customer.
23/02/2026	**AC5.1** Interpret recipes for complex menus	Recipe Deconstruction Task	Be able to interpret recipes for **complex menus**, using recipes with a range of advanced skills, technical terms, and no processed foods.	**Complex Menu** : A meal plan including multiple hot and cold dishes using advanced techniques **Interpret** : Understand and explain meaning **Commodities** : Ingredients used in food production	Explain that professional chefs adapt and modify recipes for timing, service, and customer needs. Reinforce technical term usage through peer quizzes.	Find a complex menu recipe (book or online). Highlight all skills, techniques, and technical terms used.
02/03/2026	**AC5.2** Plan production of menus	Menu Planning Activity	Be able to plan the **production of multiple dishes**, showing logical sequencing, timings, mise en place, and identification of equipment/tools.	**Sequencing** : Putting steps in a logical order **Mise en place** : Preparation before cooking **Contingency** : Planning for unexpected problems	Many learners forget to build in realistic timings and overlook hygiene/safety during planning. Model an effective time plan on the board using a visual timer layout.	Complete a time plan including preparation, cooking, service, and hygiene steps. Annotate with tools/equipment used.
09/03/2026	**AC5.2** Plan production of menus	Trial or Mock Production Run	Refine and practise the **planning of production**, including contingency plans, quality points,	**Quality Points** : Features that ensure food meets a high standard **Service Style** : How food is presented and served **Methods** : Techniques used in	Learners may focus too much on dish order rather than service timing. Script: "It's not just about what's cooked first—it's about what's ready at the *right* time, and served well."	Submit a refined production plan with hygiene notes, contingency adjustments, and annotations for storage and service.

			hygiene and service style.	cooking and preparation		
16/03/2026	**AC5.2** (Assessment Application)	**Practical Exam Week**	Apply planning and interpretation skills under timed conditions to produce complex dishes independently and hygienically.	**Execution** : Carrying out a plan effectively **Assessment Criteria** : The measurable standard you are being judged against **Finishing** : Final presentation and service of the dish	Encourage time checkpoints. Script: "Check your progress at 30 mins and 60 mins. Adjust as needed—but never compromise hygiene or safety."	Write a short evaluation reflecting on timing, success of plan, hygiene, and dish quality. Include annotated photos.
23/03/2026	Interview (Evaluation of LO5 work)	**Verbal Interview**	Evaluate your own ability to interpret, plan and produce complex dishes. Identify strengths, weaknesses, and areas for improvement.	**Evaluate** : To judge or assess based on evidence **Reflection** : Looking back on your actions and learning **Improvement** : How something could be made better	Learners may struggle to verbalise weaknesses. Script: "Think of one thing that went better than expected, and one that didn't. What would you change next time?"	Prepare interview notes using your time plan, evaluation, and annotated recipe. Practise answering key reflective questions aloud.
13/04/2026	**AC1.1 & 1.2** Responsibility for food safety / Methods used by food handlers	None	Revise how individuals take responsibility for food safety and the hygiene practices required by food handlers.	**Personal Hygiene** : Practices to maintain cleanliness **Protective Clothing** : Apparel used to prevent contamination **Responsibility** : Being accountable for actions	Use case study examples – e.g. food handler illnesses. Script: "Why is your role as a food handler so important to public health?"	Produce a fact file: how food workers must behave and why it matters.
20/04/2026	**AC1.3 & 1.4** Methods for clean work areas / Analysing food safety risks	None	Identify methods used to maintain hygiene in the workplace and assess causes and implications of food safety risks.	**Cross-contamination** : Transfer of harmful bacteria **Signage** : Visual warnings and instructions **Allergens** : Substances that cause allergic reactions	Make this visual with hazard posters. Script: "How does poor kitchen layout or signage increase risk?"	Complete a risk matrix of common catering hazards with actions to prevent them.
27/04/2026	**AC2.1 & 2.2** Structure of nutrients /	None	Revise how proteins, fats, carbs, vitamins, etc.	**Nutrient Density** : The amount of nutrients per calorie **Biological**	Many learners forget water is a nutrient. Script: "Why is	Create a Venn diagram for nutrient sources and their roles.

	Classifying nutrients		are structured and how to classify their food sources and benefits.	**Value** : Quality of protein **Complementary Actions** : Nutrients that work together	water *just* as essential as vitamins?"	
04/05/2026	**AC2.3 & 3.1** Impact of food production methods / Functions of nutrients	None	Explain how cooking, storage and processing affects nutrient value; revise what each nutrient does in the body.	**Fortification** : Adding nutrients to food **Preservation** : Preventing spoilage **Protein** : Builds and repairs body tissues	Misconception: boiling = healthy. Script: "Which method loses most vitamin C: steaming or boiling?"	Write a case study: How freezing vs UHT affects a nutrient-rich food (e.g. soup, milk).
11/05/2026	**AC3.2 & 3.3** Unsatisfactory intake / Nutritional needs of groups	None	Identify signs of nutritional deficiency and revise how specific groups (e.g. elderly, athletes, pregnant women) have different needs.	**Deficiency** : Lack of a nutrient **Malnutrition** : Poor nutrition (too much or too little) **Energy Requirements** : How much energy a person needs daily	Students may confuse under- and overnutrition. Script: "Can you be overweight and still malnourished? Yes—explain why."	Research 3 groups and create a comparison table of energy/protein/vitamin needs.
18/05/2026	**AC3.4 & 4.1** Situational nutrition / Fitness for purpose of diets	None	Assess how lifestyle, income, beliefs etc. affect food choices. Evaluate whether diets are nutritionally appropriate.	**Cultural Needs** : Dietary patterns based on religion/tradition **Fitness for Purpose** : How well a diet meets someone's nutritional requirements	Students often generalise. Script: "Not all vegetarians eat healthily—what else do we need to check?"	Create a diet analysis table: 2 case studies with pros, cons, and improvements.
01/06/2026	**Exam Warmup and Written Paper Practice**	Exam Warmup and Written Paper Practice	Practise written responses for revision ACs (LO1–LO5) and apply exam technique to past paper-style questions.	**Command Words** : Words like "explain", "analyse" etc. used in questions **Exam Technique** : Strategies to structure and manage exam responses	Model marking with WJEC past paper questions. Script: "Look at the verb—what is it *asking* you to do?"	Complete 1 full 8–12 mark exam-style response and peer/self-assess.

08/06/2026	**AC1.1** Explain how food properties can be changed	AC1.1 Practical: Changing Properties	Understand how food is changed through denaturation, gelatinisation, caramelisation, emulsification, and sols-gels.	**Gelatinisation** : Thickening of starch with liquid and heat **Emulsification** : Mixing of two unblendable liquids using an emulsifier **Sols-gels** : States of matter in food	These terms are often confused. Use side-by-side demo (e.g. custard vs caramel vs whipped cream). Script: "What's happening on a molecular level here?"	Produce a set of labelled diagrams or flowcharts showing how each change occurs in food.
15/06/2026	**AC1.2** Variables affecting food properties	AC1.2 Practical: Investigating Variables	Identify variables (temperature, chemical reactions, manipulation) and their effect on food characteristics like texture, rise or setting.	**Variable** : A factor that can change during an experiment **Manipulation** : Physical action like beating or whisking **Chemical Reaction** : A process that changes food's structure	Emphasise independent/dependent/control variables. Script: "If we change how much we stir, what *result* are we measuring?"	Design an investigation proposal with independent/dependent/control variables identified.
22/06/2026	**AC2.1** Set success criteria for food investigations	AC2.1 Practical: Creating Success Criteria	Learn to define measurable, relevant success criteria for experiments (appearance, aroma, flavour, texture etc.) and compare to standard controls.	**Success Criteria** : Benchmarks to judge experimental outcome **Standard Control** : A known result used for comparison **Texture / Aroma / Flavour** : Sensory qualities	Students may list vague terms (e.g. "nice" or "soft"). Script: "What does 'soft' mean? Can you measure or observe it reliably?"	Write a success criteria chart for an upcoming investigation with reasons for each criterion.