

# FOOD SCIENCE

## S1 Course Outline

S1 Food Science equips students with essential culinary skills. Once they get into the habit of using wholefood for daily cooking, they will understand the health benefits of eating well.

Topics	Learning targets	Formative Practices
<b>1. Food Safety &amp; Kitchen Hygiene</b>	<ul style="list-style-type: none"> <li>- Foresee the causes and conditions leading to food spoilage, food contamination and related food-borne diseases.</li> <li>- Be aware of kitchen hazards such as leaving high heat unattended or holding hot objects in hands.</li> <li>- Adopt safe, hygienic practices in food preparation and serving.</li> </ul>	<ul style="list-style-type: none"> <li>- Review the 5 keys of food safety on FSci website.</li> <li>- Provide examples of how our families maintain kitchen hygiene.</li> <li>- Pan-fry crepes.</li> <li>- Tidy up and clean up workspace after use.</li> </ul>
<b>2. Knife Skills</b>	<ul style="list-style-type: none"> <li>- Demonstrate secure hand positions when holding a knife.</li> <li>- Cut ingredients evenly in size and shape.</li> <li>- Apply the skills confidently with minimal supervision.</li> </ul>	<ul style="list-style-type: none"> <li>- Cut a carrot in a safe manner.</li> <li>- Try out other cutting tools such as graters and spiralisers.</li> <li>- Make a Waldorf salad.</li> </ul>
<b>3. Measuring Skills</b>	<ul style="list-style-type: none"> <li>- Decode the short forms of measuring units correctly.</li> <li>- Use the measuring tools precisely.</li> <li>- Understand the importance of accurate measurement for certain recipes.</li> </ul>	<ul style="list-style-type: none"> <li>- Accurately measure out the ingredients listed by the teacher.</li> <li>- Make flatbread.</li> </ul>
<b>4. Wet Heat</b>	<ul style="list-style-type: none"> <li>- Use 5 Food Science terminologies in daily conversation every week.</li> <li>- Describe the benefits of using water in cooking.</li> <li>- Manage to control heat and cooking time.</li> </ul>	<ul style="list-style-type: none"> <li>- Boil an egg and mash a boiled potato to make an egg potato salad.</li> </ul>
<b>5. Interim Assessment (40%)</b>	<ul style="list-style-type: none"> <li>- Complete the given tasks within the time given.</li> <li>- Maintain kitchen hygiene and food quality throughout.</li> <li>- Employ necessary skills to meet the success criteria.</li> <li>- Show individual improvement in more than one area.</li> </ul>	<ul style="list-style-type: none"> <li>- 15%: Theory. 25%: Practical.</li> <li>- Remarks: <ul style="list-style-type: none"> <li>- Details of assessment tasks will be given one week before the assessment.</li> <li>- Adjustment may be made subject to classroom arrangement.</li> <li>- Students will be notified in class.</li> </ul> </li> </ul>
<b>6. Dry Heat</b>	<ul style="list-style-type: none"> <li>- Describe the elements which cause the browning of meat and sugary food.</li> <li>- Never leave high heat unattended or holding hot objects in hands.</li> <li>- Safely use an oven and learn the use of different settings.</li> <li>- Adjust the heat of the hob without teacher's intervention.</li> <li>- Rule out unhealthy cooking practice, i.e. deep-frying.</li> </ul>	<ul style="list-style-type: none"> <li>- Make use of different cooking methods: dry heat</li> <li>- Stir-fry sweet peppers, sauté onions, pan-fry pork chops, broil pineapples.</li> </ul>
<b>7. Kneading Skills</b>	<ul style="list-style-type: none"> <li>- Demonstrate effective hand positions when kneading dough.</li> <li>- Be able to tell when kneading is done.</li> <li>- Shape a dough with no cracks.</li> </ul>	<ul style="list-style-type: none"> <li>- Make bread.</li> </ul>
<b>8. End-of-course Assessment (50%)</b>	<ul style="list-style-type: none"> <li>- Complete their chosen recipes within the time given.</li> <li>- Maintain kitchen hygiene and food quality throughout.</li> <li>- Handle and use culinary equipment with confidence and understanding.</li> </ul>	<ul style="list-style-type: none"> <li>- 20%: Theory. 30%: Practical.</li> <li>- Remarks: <ul style="list-style-type: none"> <li>- Details of assessment tasks will be given one week before the assessment.</li> <li>- Adjustment may be made subject to classroom arrangement.</li> <li>- Students will be notified in class.</li> </ul> </li> </ul>
<b>9. Self-assessment and reflection (10%)</b>	<ul style="list-style-type: none"> <li>- Reflect on previous performance.</li> <li>- Show evidence of success.</li> <li>- Set a new goal for improvement.</li> </ul>	<ul style="list-style-type: none"> <li>- Complete an online learning survey.</li> <li>- Write a self-reflection in no less than 150 words.</li> <li>- Describe the highlights from personal learning experience.</li> <li>- Suggest ways for improvement.</li> </ul>
<b>10. Chef's visit</b>	<ul style="list-style-type: none"> <li>- Find out what makes a professional chef successful.</li> <li>- Make learning meaningful by cooking more for themselves at home.</li> </ul>	<ul style="list-style-type: none"> <li>- Interview a chef, getting professional tips on how to ensure <b>food safety and kitchen hygiene</b> in the restaurant.</li> <li>- Watch demonstrations and cook with him when time allows.</li> </ul>

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## S2 Course Outline

S2 Food Science encourages students to look into the details of common food processing. They will gain confidence in using different raising agents and condiments.

Topics	Learning targets	Formative Practices
<b>1. Raising agents I: Yeast</b>	<ul style="list-style-type: none"> <li>- Find out the functions of the key ingredients for bread making.</li> <li>- Memorise the key words to help describe the process of fermentation.</li> </ul>	<ul style="list-style-type: none"> <li>- Teach the teacher to make bread.</li> <li>- Study key notes from a PowerPoint.</li> <li>- Enhance the prior knowledge from a video.</li> <li>- Use the ingredients provided by the teacher to make burger buns.</li> </ul>
<b>2. Raising agents II: Sodium Bicarbonate</b>	<ul style="list-style-type: none"> <li>- Consolidate understanding of previous unit.</li> <li>- Examine how sodium bicarbonate reacts with acidic substances.</li> </ul>	<ul style="list-style-type: none"> <li>- Fill out a google form.</li> <li>- Complete 3 experiments.</li> <li>- Find out the key elements which cause the chemical reactions in the experiments.</li> <li>- Bake a cookie with baking soda and the other without.</li> </ul>
<b>3. Raising Agents III: Baking Soda, Cream of Tartar and Baking Powder</b>	<ul style="list-style-type: none"> <li>- Investigate the functions of different chemical raising agents.</li> <li>- Apply the right raising agent to the right baked product.</li> </ul>	<ul style="list-style-type: none"> <li>- Compare muffins baked with different chemical raising agents.</li> <li>- Make homemade baking powder with three key components.</li> </ul>
<b>4. Raising Agents IV: Air</b>	<ul style="list-style-type: none"> <li>- Identify different stages of whipped egg whites.</li> <li>- understand how air is added to baked goods.</li> </ul>	<ul style="list-style-type: none"> <li>- Whip egg white to stiff peaks.</li> <li>- Pan-fry souffle pancakes.</li> </ul>
<b>5. Interim assessment (40%)</b>	<ul style="list-style-type: none"> <li>- Complete the given tasks within the time given.</li> <li>- Maintain kitchen hygiene and food quality throughout.</li> <li>- Employ necessary skills to meet the success criteria.</li> <li>- Show individual improvement in more than one area.</li> </ul>	<ul style="list-style-type: none"> <li>- 15%: Theory. 25%: Practical.</li> <li>- Remarks: <ul style="list-style-type: none"> <li>- Details of assessment tasks will be given one week before the assessment.</li> <li>- Adjustment may be made subject to classroom arrangement.</li> <li>- Students will be notified in class.</li> </ul> </li> </ul>
<b>6. Condiments I: Five senses of taste</b>	<ul style="list-style-type: none"> <li>- Name 5 senses of taste without hesitation.</li> <li>- Explain why spiciness is not a taste.</li> <li>- Truly understand the meaning of "season to taste".</li> </ul>	<ul style="list-style-type: none"> <li>- Identify the five taste zones on the tongue.</li> <li>- Make a dish which includes 5 tastes.</li> </ul>
<b>7. Condiments II: flavours of Thai</b>	<ul style="list-style-type: none"> <li>- Appreciate the combination of specific herbs and spices in different countries.</li> </ul>	<ul style="list-style-type: none"> <li>- Use Thai herbs and spices to make sausage sticks.</li> </ul>
<b>8. End-of-course assessment (50%)</b>	<ul style="list-style-type: none"> <li>- Show understanding of the food properties learnt in the whole cycle.</li> <li>- Complete their chosen recipes within the time given.</li> <li>- Maintain kitchen hygiene and food quality throughout.</li> <li>- Handle and use culinary equipment and chosen ingredients with confidence and understanding.</li> </ul>	<ul style="list-style-type: none"> <li>- 20%: Theory. 30%: Practical.</li> <li>- Remarks: <ul style="list-style-type: none"> <li>- Details of assessment tasks will be given one week before the assessment.</li> <li>- Adjustment may be made subject to classroom arrangement.</li> <li>- Students will be notified in class.</li> </ul> </li> </ul>
<b>9. Self-assessment and reflection (10%)</b>	<ul style="list-style-type: none"> <li>- Reflect on previous performance.</li> <li>- Show evidence of success.</li> <li>- Set a new goal for improvement.</li> </ul>	<ul style="list-style-type: none"> <li>- Complete an online learning survey.</li> <li>- Write a self-reflection in no less than 150 words.</li> <li>- Describe the highlights from personal learning experience.</li> <li>- Suggest ways for improvement.</li> </ul>
<b>10. Chef's visit</b>	<ul style="list-style-type: none"> <li>- Find out what makes a professional chef successful.</li> <li>- Make learning meaningful by cooking more at home.</li> </ul>	<ul style="list-style-type: none"> <li>- Interview a chef, getting professional tips on how to maintain <b>food quality and work efficiency all day long</b> in a busy restaurant.</li> <li>- Watch demonstrations and cook with him when time allows.</li> </ul>

# FOOD SCIENCE

## S3 Course Outline

2020/21

**LTPSS**

S3 students will plan and prepare proper meals to improve certain health conditions and lifestyle. They learn how individuals' and families' well-being can be enhanced by selecting healthy sustainable food. Before continuing their studies in senior forms, they are inspired to rethink and redefine what "the Eat-Well Plate" means to them.

Topics	Learning targets	Formative Practices
<b>1. Digestive Health I</b>	<ul style="list-style-type: none"> <li>- Investigate the relationship between food and digestive health.</li> <li>- Describe the common nutritious deficiency of people who suffer from digestive problems.</li> </ul>	<ul style="list-style-type: none"> <li>- Share personal experience on how food can upset the gut.</li> <li>- Replicate a dish introduced by the teacher.</li> </ul>
<b>2. Digestive Health II</b>	<ul style="list-style-type: none"> <li>- Identify the type of unhealthy food which will upset our gut.</li> <li>- Demonstrate logical analysis with evidence-based descriptions.</li> <li>- Suggest solutions for a better gut health.</li> </ul>	<ul style="list-style-type: none"> <li>- Write down the positive and negative health impact of a given breakfast.</li> <li>- Modify the meal in order to enhance the health values for a better gut health.</li> <li>- Present the new ideas to the class.</li> </ul>
<b>3. Healthy Weight</b>	<ul style="list-style-type: none"> <li>- Examine the hidden problems which may cause eating disorders and lead to unhealthy weight.</li> </ul>	<ul style="list-style-type: none"> <li>- Read two cases and discuss how the victims lost control on their diets.</li> <li>- Suggest solutions in terms of making changes to their diets.</li> </ul>
<b>4. Interim assessment (40%)</b>	<ul style="list-style-type: none"> <li>- Modify and recreate a meal for people who have digestive issues and unstable weight loss.</li> <li>- Employ necessary skills to meet the success criteria.</li> <li>- Show individual improvement in more than one area.</li> </ul>	<ul style="list-style-type: none"> <li>- 15%: Theory. 25%: Practical.</li> <li>- Remarks:                             <ul style="list-style-type: none"> <li>- Details of assessment tasks will be given one week before the assessment.</li> <li>- Adjustment may be made subject to classroom arrangement.</li> </ul> </li> </ul> <p>Students will be notified in class.</p>
<b>5. Productive Life I</b>	<ul style="list-style-type: none"> <li>- Investigate the relationship between food and a productive life.</li> <li>- Understand how food affects one's productivity.</li> </ul>	<ul style="list-style-type: none"> <li>- Complete a questionnaire to overview the food we eat and assess our productivity.</li> <li>- Replicate the dish introduced by the teacher.</li> </ul>
<b>6. Productive Life II</b>	<ul style="list-style-type: none"> <li>- Suggest a list of foods which are able to enhance one's productivity.</li> <li>- Prove the effectiveness of your meal with a human "lab mouse".</li> </ul>	<ul style="list-style-type: none"> <li>- Modify and recreate a meal to improve one's productivity.</li> <li>- Present the ideas with evidence-based findings.</li> <li>- Test it on your friends and notice the change of their attention span.</li> </ul>
<b>7. Special diets</b>	<ul style="list-style-type: none"> <li>- Understand the needs of people on special diets.</li> <li>- Rethink the pros and cons.</li> </ul>	<ul style="list-style-type: none"> <li>- Review a few niche products.</li> <li>- Replicate one of them.</li> <li>- Compare the nutritional values with non-special products.</li> </ul>
<b>8. End-of-course assessment (50%)</b>	<ul style="list-style-type: none"> <li>- Create an appropriate meal with the given ingredients for people who have the health issues stated on the paper given by the teacher.</li> <li>- Present the dish to other groups with good understanding.</li> </ul>	<ul style="list-style-type: none"> <li>- 20%: Theory. 30%: Practical.</li> <li>- Remarks:                             <ul style="list-style-type: none"> <li>- Details of assessment tasks will be given one week before the assessment.</li> <li>- Adjustment may be made subject to classroom arrangement.</li> </ul> </li> </ul> <p>Students will be notified in class.</p>
<b>9. Self-assessment and reflection (10%)</b>	<ul style="list-style-type: none"> <li>- Reflect on previous performance.</li> <li>- Show evidence of success.</li> <li>- Set a new goal for improvement.</li> </ul>	<ul style="list-style-type: none"> <li>- Write a self-reflection in no less than 150 words.</li> <li>- Describe the highlights from their learning experience.</li> <li>- suggest ways for improvement.</li> <li>- Complete an online learning survey.</li> </ul>
<b>10. Chef's visit</b>	<ul style="list-style-type: none"> <li>- Explore more skills from a professional chef.</li> <li>- Make learning meaningful by cooking more for themselves outside the lesson.</li> </ul>	<ul style="list-style-type: none"> <li>- Interview a chef, getting professional tips on how to satisfy different customer needs in Hong Kong.</li> </ul>