



Curriculum & Instruction

SUMMIT PUBLIC SCHOOLS

Content Area: Family and Consumer Science

Course: Advanced Baking and Pastry

Grade(s): 10-12

Course Overview

Advanced Baking and Pastry is a Grades 10–12 course focused on developing advanced culinary knowledge and practical baking skills. Students progress from foundational safety, sanitation, recipe interpretation, and measurement skills into the science and techniques of breads, pastries, pies, cookies, and cakes. Through hands-on laboratory experiences, students apply baking principles, analyze ingredients and processes, troubleshoot challenges, and refine their techniques. The course also emphasizes collaboration, communication, organization, time management, problem solving, and professional-quality presentation.

New Jersey State Learning Standards

Summit Public Schools curriculum aligns with the [New Jersey Student Learning Standards](#).

Content Area Standards:

- 9.2.A.1:** Apply communication and data analysis to problem-solving and decision-making.
- 9.2.A.3:** Apply symbols, pictures, graphs, objects, and other visual information in academic and occupational settings.
- 9.2.B.2:** Apply project planning and management skills.
- 9.2.C.2:** Communicate effectively in a variety of settings with diverse groups.
- 9.2.E.5:** Use comparative shopping techniques to acquire goods and services.
- 9.2.F.4:** Practice the safe use of tools and equipment.
- 9.2.F.5:** Implement safety procedures in classroom and workplace settings.

Interdisciplinary Standards:

SCIENCE:

HS-PS1-2: Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.

HS-PS1-3: Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.

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HS-PS1-5: Apply scientific principles and evidence to explain the effects of changing temperature or concentration on the rate of a reaction.

MATH:

N.Q.A.1: Use units as a way to understand problems and guide the solution of multi-step problems.

N.Q.A.2: Define appropriate quantities for the purpose of descriptive modeling.

N.Q.A.3: Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

ENGLISH LANGUAGE ARTS:

W.IW.11–12.2: Write informative/explanatory texts, including scientific procedures and technical processes.

VISUAL & PERFORMING ARTS:

1.5.12prof.Cr1a: Use multiple approaches to begin creative endeavors.

1.5.12prof.Cr2a: Engage in making art and design using a variety of tools and methods.

1.5.12prof.Cr3a: Examine, reflect on, and plan revisions to works of art and design.

1.5.12prof.Pr4a: Analyze, select, and curate artifacts/artworks for presentation.

1.5.12prof.Re8a: Interpret intent and meaning in artistic work.

1.5.12prof.Cn10a: Document the process of developing ideas from early stages to fully elaborated ideas.

Career Readiness, Life Literacies and Key Skills Standards:

9.2.A.1: Apply communication and data analysis to problem-solving and decision-making.

9.2.A.3: Apply symbols, pictures, graphs, objects, and other visual information in academic and occupational settings.

9.2.B.2: Apply project planning and management skills.

9.2.C.2: Communicate effectively in a variety of settings with diverse groups.

9.2.E.5: Use comparative shopping techniques to acquire goods and services.

9.2.F.4: Practice the safe use of tools and equipment.

9.2.F.5: Implement safety procedures in classroom and workplace settings.

Computer Science and Design Thinking Standards:

8.2.12.ED.1: Use a design process to solve a problem.

8.2.12.ED.2: Create a product or system that addresses a real-world problem.

8.2.12.ED.3: Evaluate a design solution using criteria and constraints.

8.2.12.ED.4: Use a systematic approach to evaluate and refine a design.

8.2.12.ED.5: Evaluate how competing factors influence design decisions.

8.2.12.ETW.1: Evaluate the impact of materials and processes on the environment.

8.2.12.ETW.2: Analyze the impact of materials and manufacturing processes.

Career Ready Practices (list if relevant)

CRP 1. Act as a responsible and contributing citizen and employee.

CRP 2. Apply appropriate academic and technical skills.

CRP 3. Attend to personal health and financial well-being.

- CRP 4. Communicate clearly and effectively and with reason.
- CRP 5. Consider the environmental, social and economic impacts of decisions.
- CRP 6. Demonstrate creativity and innovation.
- CRP 7. Employ valid and reliable research strategies.
- CRP 8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP 9. Model integrity, ethical leadership and effective management.
- CRP 10. Plan education and career paths aligned to personal goals.
- CRP 11. Use technology to enhance productivity.
- CRP 12. Work productively in teams while using cultural global competence.

New Jersey Curriculum Mandates: (list only relevant ones)

This curriculum integrates lessons that address the following interdisciplinary New Jersey Curriculum Mandates:

- [Diversity and Inclusion](#) (Grades K - 12)
- [History and Contributions of Individuals with Disabilities and LGBTQ persons](#) (Grades 6 - 12 Only)

Learning Objectives

Learning objectives are clear, specific statements that define what students should know, understand, and be able to do by the end of a lesson or course.

- Students will be able to define common culinary terminology, accurately read and interpret a recipe, and demonstrate proper measuring techniques using both dry and liquid measuring tools.
- Students will be able to explain and apply proper personal hygiene practices, sanitation techniques, and safe food handling procedures to prevent foodborne illness, including handwashing protocols, temperature control, and avoiding cross-contamination.
- Students will be able to identify the function of key bread baking ingredients (such as flour, yeast, salt, sugar, and fat) and explain how each ingredient affects the final product's texture, flavor, and structure
- Students will be able to demonstrate the advanced methods for different bread baking subcategories (such as quick breads, yeast breads, and biscuits) to achieve successful results in texture, rise, and appearance.
- Students will be able to work cooperatively in groups by effectively communicating, delegating tasks, and contributing to shared responsibilities during food preparation activities.
- Students will be able to create and follow a time management plan that organizes preparation, baking, and cleanup tasks to efficiently complete baked goods within a given timeframe.
- Students will be able to analyze recipes and their ingredients in pastry products and predict how adjustments and challenges may happen
- Students will be able to evaluate how time and temperature control at each stage of pastry production including ingredient preparation, mixing, resting, and baking impacts gluten development, fat behavior, fermentation, and final texture.
- Students will be able to work cooperatively in groups by effectively communicating, delegating tasks, and contributing to shared responsibilities in school, career, and home settings.

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- Students will be able to create and implement a time management plan that organizes preparation, production, baking, and cleanup tasks to efficiently complete pastry products within a given timeframe.
- Students will be able to explain the functions and interactions of major cookie and cake ingredients (flour, sugar, eggs, fats, leavening agents, and flavorings) and how they affect the final product's structure, texture, moisture, and flavor.
- Students will be able to decorate and present cakes and cookies using appropriate techniques and design elements for both professional and personal applications.
- Students will be able to document production processes, evaluate baking results, and refine techniques over multiple batches to achieve continuous improvement.

Units of Study

Units of study are organized collections of lessons and learning experiences focused on a specific topic and set of skills within a course. Each unit is guided by a set of essential questions.

Unit 1: Safety, Sanitation, and Advanced Recipe Skills (1 week)

- What could be a potential outcome of not following proper safety or sanitation in the kitchen?
- Why is it important to understand food preparation terms and techniques?
- Why is measuring and understanding abbreviations important when following

Unit 2: Breads (2 weeks)

- What are the ingredients, and processes used in bread baking and what are their functions?
- Why does the method of mixing make a difference?
- Why is the correct type of pan and the preparation of the pan important?
- Why is it important to follow a work plan when working in small groups?
- Why is it important to understand the process of bread making and problem solving while creating a recipe?

Unit 3: Pastry and Pies (4-5 weeks)

- Why is it important to know how fat a four ratio affects pastry dough?
- Why is it important to use the correct equipment? Why is a fat and its temperature play such an important role in pastry dough?
- How will critical folding and lamination skills change the outcome of the pastry dough?
- What will happen if the correct timing and temperature is not taken into consideration?
- Why is it so important to create a plan and execute?

Unit 4: Cookies and Cakes (4-5 weeks)

- How do different leavening mechanisms create different kinds of structure?
- How does the way you mix batter affect the outcome of the product?
- How do the functions and interactions of ingredients determine the texture, flavor, and structure of baked goods?
- What techniques and presentations transform baked products into professional-quality?
- Why are organization, collaboration, and time management critical skills in both culinary production and career success?

Instructional Resources and Materials

Instructional resources are the information sources teachers utilize to guide their teaching and assessing.

Instructional materials are the texts students read or review. The instructional resources and materials may vary in order to meet the learning needs of students. During independent reading activities, students may utilize books from the school library and ones brought from home. Teachers will utilize a wide variety of print, audio and visual texts throughout the year. Below is a list of frequently used materials:

Texts:

Food for Today, McGrawHill Education, 2016

What Not to Do in the Kitchen by Jamie Oliver

Researched Recipes

Assessment Strategies

Assessment measures a student's mastery of a course standard and learning objective. Assessment can be used for both instructional purposes and for evaluative purposes. Teachers may choose one or more of the following ideas to assess learners. They may also modify these ideas to make the assessment more responsive to students' interests and needs.

Formative:

- Teacher observation and feedback during daily lab/kitchen work
- Daily evaluation of participation and individual accountability
- Recipe preparation questions
- Guided notes and worksheets
- Checks for understanding
- Teacher demonstrations followed by student practice
- Observation of measuring techniques
- Observation of safety and sanitation practices
- Monitoring group planning and task delegation
- Recipe reflections during and after production
- Student evaluation of challenges encountered during recipes
- Teacher feedback during preparation and production
- Monitoring students' use of time-management plans

Summative:

- Safety and Sanitation Test
- Practical Baking Assessments
- Recipe Preparation Assessment
- Prepared Product Evaluation
- Recipe Reflection/Evaluation
- Planning/Production Assessment

Benchmark:

- Students demonstrate mastery of kitchen safety, sanitation, personal hygiene, and safe food-handling procedures.
- Students accurately interpret recipes, measure ingredients, perform conversions, and scale recipes.
- Students demonstrate understanding of ingredient functions and successfully apply appropriate techniques for quick breads, yeast breads, and biscuits.
- Students demonstrate understanding of fat-to-flour ratios, gluten development, temperature control, and lamination techniques.
- Students demonstrate understanding of ingredient interactions, mixing methods, leavening, decorating, and presentation.
- Students independently or collaboratively plan, organize, execute, and clean up a baking project within an established timeframe.
- Students evaluate finished products, identify problems, and make appropriate adjustments to improve future results.

Alternative:

- Students verbally or physically demonstrate a specific baking technique.
- Collection of recipes, planning documents, photographs, reflections, and evaluations demonstrating growth over time.
- Students analyze a failed or flawed product and identify likely causes and solutions.
- Students develop a plan that includes ingredients, equipment, sequencing, timing, and cleanup.
- Students design and execute a professional presentation/decorating concept.
- Students explain their decision-making, challenges, and adjustments following a laboratory experience.
- Students evaluate collaboration, communication, task delegation, and individual contributions.
- Students demonstrate measuring, mixing, kneading, folding, decorating, or other techniques rather than completing a traditional written assessment.

Suggested Strategies for Modification & Differentiation

[Modifications Chart](#) (update for your content area)