Program of Study Guide:
Culinary Arts - DRAFT

Comprehensive guidelines and course standards for the Culinary and Food Services pathway

Office of College and Career Pathways

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MARYLAND STATE DEPARTMENT OF EDUCATION

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DOCUMENT HISTORY

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Purpose

The purpose of this document is to communicate the required Career and Technical Education (CTE) academic standards for the Culinary Arts Program of Study. The academic standards in this document are theoretical and performance based. The academic standards in this document are theoretical and performance based. The standards contain content from multiple state departments of education, the College Board, the American Culinary Federation, and the National Restaurant Association. They have been reviewed and vetted by members of the Maryland business and industry community.

In addition to academic standards, the Maryland State Department of Education (MSDE) has incorporated into this document Labor Market Information (LMI) definitions and explanations for the Program of Study; program aligned Industry Recognized Credentials; and Work-Based Learning resources and requirements by course level.

This document is intended for use by educational administrators and practitioners. A similar document is available for each state-approved CTE Program of Study.

Sources of Standards

The development of the Culinary Arts I-IV course standards is informed by several authoritative sources that provide comprehensive guidelines and frameworks for culinary arts education. These sources collectively provide a robust foundation for developing comprehensive and industry-aligned standards for the Culinary Arts I-IV courses, ensuring that students acquire the necessary skills and knowledge to succeed in the field of culinary and food services.

Below is a list of these sources, along with descriptions, their applications in course development, and corresponding web links:

1. **Advance CTE's Career Clusters Framework**
   A. **Description:** The Advance CTE framework provides a nationally recognized structure for organizing career and technical education (CTE) into 14 Career Clusters. Each cluster represents a grouping of occupations and industries, with the Hospitality, Events, & Tourism Career Cluster focusing on careers related to food and beverage services, lodging, travel, tourism, recreation, and event planning.
   B. **Usage:** The framework serves as a foundational guideline for developing Culinary Arts standards, ensuring alignment with industry-specific expectations, and highlighting essential knowledge and skills for each level of study.
   C. **Source:** Advance CTE Career Clusters: https://careertech.org/career-clusters/

2. **ServSafe Certification Standards**
   A. **Description:** ServSafe, administered by the National Restaurant Association, offers food safety training and certification recognized across the foodservice industry. ServSafe certifications, including Food Handler and Manager, cover critical food safety principles, sanitation, and safe food handling practices.
   B. **Usage:** Culinary Arts I and II integrate ServSafe standards, preparing students for the ServSafe Food Handler certification in Culinary Arts I and the ServSafe Manager certification in Culinary Arts II. These certifications ensure students meet industry standards in food safety and sanitation.
   C. **Source:** ServSafe Certifications: https://www.servsafe.com/

3. **ProStart Program Standards**
   A. **Description:** Developed by the National Restaurant Association Educational Foundation, the ProStart program is a two-year, industry-recognized program combining classroom learning with hands-on experience in culinary arts and restaurant management. The curriculum is based on industry standards, covering key areas of culinary techniques, restaurant operations, and management.
   B. **Usage:** Culinary Arts III incorporates ProStart standards, preparing students for the ProStart Certificate of Achievement. This certification validates students' practical skills and knowledge in culinary techniques and restaurant operations.
   C. **Source:** ProStart Program: https://chooserestaurants.org/programs/prostart/

4. **American Culinary Federation (ACF) Certification Standards**
   A. **Description:** The ACF offers professional certifications for culinary professionals, providing recognized credentials that validate skills, competencies, and expertise in the culinary field. The ACF Certified Fundamentals Cook (CFC) certification is designed for students beginning their culinary careers.

B. **Usage:** Culinary Arts III aligns with ACF standards, preparing students for the ACF Certified Fundamentals Cook (CFC) certification. This certification verifies that students have achieved foundational culinary competencies essential for entry-level positions in the industry.

C. **Source:** American Culinary Federation: https://www.acfchefs.org/ACF/Certify/Levels/ACF/Certify/Levels/Students/

5. **National Restaurant Association Educational Foundation (NRAEF) Guidelines**

A. **Description:** The NRAEF provides educational resources and guidelines aimed at preparing individuals for successful careers in the restaurant and foodservice industry. It emphasizes both foundational skills and career readiness in various aspects of restaurant management and operations.

B. **Usage:** NRAEF guidelines inform curriculum development for all Culinary Arts courses, ensuring alignment with current industry practices in areas such as cost management, customer service, and operations support. The guidelines help provide students with a broad understanding of the skills required in restaurant and foodservice careers.

C. **Source:** National Restaurant Association Education Foundation: https://chooserestaurants.org

Course Descriptions

Course Level	Course Information	Description
Required Core: Course 1	Culinary Arts I SCED: <XX> Grades: 9-12 Prerequisite: None Credit: 1	Culinary Arts I introduces students to the fundamentals of food safety, sanitation, and basic culinary techniques. Students will gain foundational skills in food preparation, kitchen safety, and nutrition while exploring career paths in the culinary and hospitality industries.
Required Core: Course 2	Culinary Arts II SCED: <XX> Grades: 10-12 Prerequisite: Culinary Arts I Credit: 1	Building on the foundational skills of Culinary Arts I, Culinary Arts II delves deeper into food safety, advanced cooking techniques, and menu planning. Students will explore more complex food preparation methods, including grilling, roasting, and baking, while practicing food presentation and portion control.
Optional Flex: Course 1	Culinary Arts III SCED: <XX> Grades: 11-12 Prerequisite: Culinary Arts I and II Credit: 1	Culinary Arts III focuses on advanced culinary techniques, menu development, and restaurant operations. Students will apply their skills to design and execute multi-course menus, using refined cooking methods and creative presentation techniques. The course emphasizes cost control, menu costing, and the use of seasonal ingredients, encouraging students to consider sustainability in their culinary practices.
Optional Flex: Course 2	Career Connected Learning I SCED: <XX> Grades: 11-12 Prerequisite: Culinary Arts I and II Credit: 1	This flexible, work-based learning course introduces students to real-world applications of classroom knowledge and technical skills through on-the-job experiences and reflective practice. Students engage in career exploration, skill development, and professional networking by participating in youth apprenticeships, registered apprenticeships, pre-apprenticeships, internships, capstone projects, or other approved career-connected opportunities. Variable credit (1–3) accommodates the required on-the-job training hours and related instruction. By integrating industry standards, employability skills, and personalized learning goals, Career Connected Learning I equips students to make informed career decisions, develop a professional portfolio, and build a strong foundation for success in postsecondary education, training, or the workforce.

Course Level	Course Information	Description
Optional Flex: Course 3	Career Connected Learning II SCED: <XX> Grades: 11-12 Prerequisite: Career Connected Learning I Credit: 1	Building on the foundational experiences of Career Connected Learning I, this advanced work-based learning course provides students with deeper on-the-job practice, leadership opportunities, and refined career exploration. Students continue to enhance their technical and professional skills, expanding their industry networks and aligning personal goals with evolving career interests. Variable credit (1–3) remains aligned with the required training hours and related instruction. Through elevated responsibilities and skill application, Career Connected Learning II prepares students to confidently transition into higher-level postsecondary programs, apprenticeships, or the workforce.

Dual Enrollment and Career Connected Learning Experiences Must be Aligned to the CTE Core.

Industry-Recognized Credentials and Work-Based Learning

Industry-Recognized Credentials – The standards in this document are aligned to the following certifications:
By the end of Culinary Arts I: ServSafe Food Handler (Not on the IRC list)

By the end of Culinary Arts II: ServSafe Manager

Optional Credentials (via the Flex Course options): American Culinary Federation (ACF) Certification and ProStart Certificate of Achievement

Work-Based Learning Examples and Resources		
Culinary Arts I: **Career Awareness**	**Culinary Arts II:** **Career Preparation**	**Flex Courses:** **Career Preparation**
• Industry Visits • Guest Speakers • Participation in Career and Technical Student Organizations • Postsecondary Visits – Program Specific Site Tours • Mock Interviews	• All of Career Awareness plus the following: • Job Shadow • Paid and Unpaid Internships	• Paid and Unpaid Internships • Apprenticeships

Labor Market Information: Definitions and Data

Labor market information (LMI) plays a crucial role in shaping Career and Technical Education (CTE) programs by providing insights into industry demands, employment trends, and skills gaps. This data helps education leaders assess the viability of existing programs and identify opportunities for new offerings. By aligning CTE programs with real-time labor market needs, schools can better prepare students for in-demand careers and ensure that resources are effectively used to support pathways that lead to high-quality, sustainable employment.

Standard Occupational Code (SOC) and Aligned Industry:

Indicator	Definition	Pathway Labor Market Data
High Wage[1]	Those occupations that have a 25th percentile wage equal to or greater than the most recent MIT Living Wage Index for one adult in the state of Maryland, and/or leads to a position that pays at least the median hourly or annual wage for the DC-VA-MD-WV Metropolitan Statistical Area (MSA). *Note: A 25th percentile hourly wage of $24.74 or greater is required to meet this definition.*	**Standard Occupational Code:** 11-9050: Food Service Managers 35-1011: Chefs and Head Cooks **Hourly Wage/Annual Salary** 25th Percentile: $22.53 / $46,862.00 50th Percentile: $30.55 / $63,544.00 75th Percentile: $38.80 / $80,704.00
High Skill	Those occupations located within the DC-VA-MD-WV Metropolitan Statistical Area (MSA) with the following education or training requirements: completion of an apprenticeship program; completion of an industry-recognized certification or credential; associate's degree, bachelor's degree, or higher.	**Typical Entry-Level Education:** To enter the occupation, chefs and head cooks typically need a high school diploma plus experience. Some attend a culinary program at a community college, technical school, culinary arts school, or 4-year college. Others learn through apprenticeship programs or in the Armed Forces.
In-Demand	Annual growth plus replacement, across all Maryland occupations, is 405 openings between 2024-2029.	**Annual Openings**

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[1] Living Wage Calculator: https://livingwage.mit.edu/states/24

Labor Market Information Data Source

Lightcast Q4 2024 Data Set. Lightcast occupation employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates are also affected by county-level Lightcast earnings by industry. Foundational data for the state of Maryland is collected and reported by the Maryland Department of Labor.

Methodology for High Wage Calculations

To combine labor market data across multiple Standard Occupational Classifications (SOCs), a weighted average approach was used to ensure accurate representation of the marketplace. Median wages for each SOC were weighted based on their respective employment levels, reflecting the relative demand for each occupation. This method ensures that occupations with higher employment contribute proportionately to the overall wage calculation. Additionally, job openings from all relevant SOCs were summed to determine the total projected demand. For example, if Mechanical Engineers account for 67% of total employment and Electrical Engineers for 33%, their respective wages are weighted accordingly, and job openings are aggregated to provide a comprehensive view of labor market opportunities. This approach delivers a balanced and accurate representation of both wages and employment demand for the program.

Methodology for In-Demand Calculations

The baseline for annual job openings, taking into account new positions and replacement positions, was determined by taking the average of all annual job openings between 2024 and 2029 across all 797 career sectors at the 5-digit SOC code level. For the 2024-2029 period, average job openings (growth + replacement) is 405.

Course Standards: Culinary Arts I

1. **GENERAL REQUIREMENTS.** This course is recommended for students in Grades 9-12.

2. **INTRODUCTION**
   A. Career and Technical Education (CTE) instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.
   B. The Hospitality, Events, & Tourism Career Cluster is dedicated to careers in the service, operation, and management of establishments involved in the preparation and serving of food and drinks with significant emphasis on providing exceptional culinary experiences and delivering high-quality customer service. These establishments vary widely, encompassing independently owned restaurants, nationwide restaurant chains, noncommercial dining facilities, bakeries, and catering services. Professionals in this career cluster span all aspects and levels of food preparation, including beverage specializations, as well as restaurant management, operations support, and health and safety.
   C. The Culinary Arts Program of Study offers high school students a comprehensive education in culinary techniques, food safety, and restaurant management, preparing them for careers in the Hospitality, Events, & Tourism Career Cluster. This program emphasizes the service, operation, and management of food establishments that allows students to progress through a structured curriculum, gaining hands-on experience, refining culinary skills, and developing a deep understanding of high-quality customer service, sanitation, and food preparation.
   D. Culinary Arts I provides hands-on practice to students where they learn measurement, knife skills, basic cooking methods, and introductory food presentation. This course prepares students to earn the ServSafe Food Handler certification by the end of the course, equipping them with essential knowledge for entry-level roles in foodservice.
   E. Students will participate in at least two Career-Connected Education and Work-Based Learning experiences in this course, which might include informational interviews or job shadowing relevant to the program of study.
   F. Students are encouraged to participate in extended learning experiences through aligned Career and Technical Student Organizations (CTSOs). CTSOs are a cocurricular requirement in the Carl D. Perkins Act, and alignment to CTSO activities is an expectation for CTE programs in the state of Maryland.

3. **KNOWLEDGE AND SKILLS**
   A. **The student demonstrates the necessary skills for career development, maintenance of employability, and successful completion of course outcomes. The student is expected to:**
      1. Identify and demonstrate positive work behaviors that enhance employability and job advancement, such as regular attendance, promptness, proper attire, maintenance of a clean and safe work environment, and pride in work.
      2. Demonstrate positive personal qualities such as flexibility, open-mindedness, initiative, active listening, and a willingness to learn.
      3. Employ effective reading, writing, and technical documentation skills.
      4. Solve problems using critical thinking techniques and structured troubleshooting methodologies.
      5. Demonstrate leadership skills and collaborate effectively as a team member.

6. Implement safety procedures, including proper use of software and following privacy guidelines.
7. Exhibit an understanding of legal and ethical responsibilities in the culinary field, following copyright laws and regulations.
8. Demonstrate time-management skills and the ability to prioritize tasks in a technical setting.

B. **The student identifies various career pathways in the culinary and food service field. The student is expected to:**
1. Develop a career plan that includes the necessary education, certifications, job skills, and experience for specific roles in culinary arts.
2. Create a professional resume and portfolio that reflect skills, projects, certifications, and recommendations.
3. Demonstrate effective interview skills for roles in culinary and food service fields.

C. **The student develops technology and digital literacy skills. The student is expected to:**
1. Use technology as a tool for research, organization, communication, and problem-solving.
2. Use digital tools, including computers, mobile devices, collaboration platforms, and cloud services, to access, manage, and create information.
3. Demonstrate proficiency in using emerging and industry-standard technologies, including culinary skills and applying creative techniques to create visually appealing and tasteful products.
4. Understand ethical and legal considerations for technology use, including the principles of data protection, copyright, and responsible technology use.

D. **The student integrates core academic skills into culinary practices. The student is expected to:**
1. Demonstrate the use of clear communication techniques, both written and verbal, that are consistent with industry standards.
2. Apply English concepts such as writing informative texts when documenting the design process and articulating goals.
3. Use mathematical concepts for measurement and conversion (Fahrenheit vs. Celsius), ratios and proportions as well as fraction and decimal conversions.

E. **The student demonstrates the necessary skills to ensure safe, sanitary, and effective food handling practices in culinary environments. The student is expected to:**
1. Understand and implement basic food safety principles, including the prevention of cross-contamination and the importance of personal hygiene.
2. Identify and describe the role of proper handwashing techniques and personal protective equipment (PPE) in maintaining food safety.
3. Recognize common foodborne pathogens and the conditions that promote bacterial growth, such as time-temperature abuse and poor sanitation practices.
4. Demonstrate correct procedures for cleaning, sanitizing, and storing food preparation tools and equipment.
5. Apply knowledge of proper storage practices, including labeling, dating, and refrigeration, to ensure food quality and safety.

F. **The student demonstrates knowledge of basic culinary skills to enhance foundational cooking abilities. The student is expected to:**
   1. Understand and practice knife safety, including basic knife handling, cutting techniques, and knife care.
   2. Apply standard measurement techniques in food preparation, including accurate use of kitchen scales, measuring spoons, and cups.
   3. Explore common cooking methods such as boiling, sautéing, baking, and steaming, and practice selecting appropriate methods for different foods.
   4. Demonstrate knowledge of basic kitchen tools and equipment, understanding their uses and correct handling procedures.
   5. Prepare simple recipes, following sequential steps to produce consistent results.

G. **The student demonstrates effective communication and teamwork skills in a culinary setting. The student is expected to:**
   1. Practice clear verbal communication and active listening skills in the kitchen environment to ensure efficient collaboration.
   2. Demonstrate appropriate communication when following and giving instructions, emphasizing precision and clarity.
   3. Collaborate effectively with peers in kitchen roles, including food preparation, cleanup, and task division.
   4. Exhibit respect for diverse perspectives and roles in a team environment, contributing to a positive and productive kitchen culture.

H. **The student applies basic health and nutrition principles to food preparation. The student is expected to:**
   1. Identify basic nutritional components of common ingredients, such as proteins, carbohydrates, and fats.
   2. Recognize the role of portion control in promoting balanced nutrition and apply it when preparing and serving food.
   3. Understand dietary restrictions and preferences, including food allergies, vegetarianism, and other common considerations.
   4. Implement basic modifications to recipes to enhance nutritional value while maintaining flavor and appeal.

Course Standards: Culinary Arts II

1. **GENERAL REQUIREMENTS.** This course is recommended for students in Grades 10-12.

2. **INTRODUCTION**
    A. Career and Technical Education (CTE) instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.
    B. The Hospitality, Events, & Tourism Career Cluster is dedicated to careers in the service, operation, and management of establishments involved in the preparation and serving of food and drinks with significant emphasis on providing exceptional culinary experiences and delivering high-quality customer service. These establishments vary widely, encompassing independently owned restaurants, nationwide restaurant chains, noncommercial dining facilities, bakeries, and catering services. Professionals in this career cluster span all aspects and levels of food preparation, including beverage specializations, as well as restaurant management, operations support, and health and safety.
    C. The Culinary Arts Program of Study offers high school students a comprehensive education in culinary techniques, food safety, and restaurant management, preparing them for careers in the Hospitality, Events, & Tourism Career Cluster. This program emphasizes the service, operation, and management of food establishments that allows students to progress through a structured curriculum, gaining hands-on experience, refining culinary skills, and developing a deep understanding of high-quality customer service, sanitation, and food preparation.
    D. Culinary Arts II emphasizes food cost analysis, nutrition, and team collaboration within a culinary setting. By the end of the course, students will be prepared to obtain the ServSafe Manager certification, positioning them with the skills necessary to take on supervisory roles in food safety and kitchen management.
    E. Students will participate in at least two Career-Connected Education and Work-Based Learning experiences in this course, which might include informational interviews or job shadowing relevant to the program of study.
    F. Students are encouraged to participate in extended learning experiences through aligned Career and Technical Student Organizations (CTSOs). CTSOs are a cocurricular requirement in the Carl D. Perkins Act, and alignment to CTSO activities is an expectation for CTE programs in the state of Maryland.

3. **KNOWLEDGE AND SKILLS**
    A. **The student demonstrates the necessary skills for career development, maintenance of employability, and successful completion of course outcomes. The student is expected to:**
        1. Identify and demonstrate positive work behaviors that enhance employability and job advancement, such as regular attendance, promptness, proper attire, maintenance of a clean and safe work environment, and pride in work.
        2. Demonstrate positive personal qualities such as flexibility, open-mindedness, initiative, active listening, and a willingness to learn.
        3. Employ effective reading, writing, and technical documentation skills.
        4. Solve problems using critical thinking techniques and structured troubleshooting methodologies.
        5. Demonstrate leadership skills and collaborate effectively as a team member.

6. Implement safety procedures, including proper use of software and following privacy guidelines.
7. Exhibit an understanding of legal and ethical responsibilities in the culinary field, following copyright laws and regulations.
8. Demonstrate time-management skills and the ability to prioritize tasks in a technical setting.

B. **The student identifies various career pathways in the culinary and food service field. The student is expected to:**
   1. Develop a career plan that includes the necessary education, certifications, job skills, and experience for specific roles in culinary arts.
   2. Create a professional resume and portfolio that reflect skills, projects, certifications, and recommendations.
   3. Demonstrate effective interview skills for roles in culinary and food service.

C. **The student develops technology and digital literacy skills. The student is expected to:**
   1. Use technology as a tool for research, organization, communication, and problem-solving.
   2. Use digital tools, including computers, mobile devices, collaboration platforms, and cloud services, to access, manage, and create information.
   3. Demonstrate proficiency in using emerging and industry-standard technologies, including culinary skills and applying creative techniques to create visually appealing and tasteful products.
   4. Understand ethical and legal considerations for technology use, including the principles of data protection, copyright, and responsible technology use.

D. **The student integrates core academic skills into culinary practices. The student is expected to:**
   1. Demonstrate the use of clear communication techniques, both written and verbal, that are consistent with industry standards.
   2. Apply English concepts such as writing informative texts when documenting the design process and articulating goals.
   3. Use mathematical concepts for measurement and conversion (Fahrenheit vs. Celsius), ratios and proportions as well as fraction and decimal conversions.

E. **The student demonstrates the necessary skills to manage food safety and sanitation practices in a culinary environment. The student is expected to:**
   1. Apply advanced food safety principles, including time and temperature control, to prevent foodborne illness.
   2. Develop and implement strategies for preventing cross-contamination in food preparation areas.
   3. Conduct self-audits of kitchen hygiene and sanitation practices to maintain health and safety standards.
   4. Demonstrate knowledge of allergen management and safe practices for preparing food for individuals with dietary restrictions.
   5. Identify and follow procedures for chemical safety in kitchen operations, including safe storage and use.

F. **The student demonstrates advanced culinary skills necessary for effective food preparation and presentation. The student is expected to:**

1. Practice advanced knife skills, including precision cuts such as brunoise, chiffonade, and julienne.
2. Execute a variety of cooking techniques, such as roasting, grilling, frying, and poaching, while selecting the appropriate method for specific ingredients.
3. Understand and control flavor profiles through the application of seasoning and ingredient pairing.
4. Prepare complex dishes following multi-step recipes, emphasizing consistency in texture, flavor, and appearance.
5. Use garnishing techniques to enhance visual appeal and presentation of dishes.

G. **The student demonstrates proficiency in menu planning, recipe scaling, and portion control for culinary service. The student is expected to:**
   1. Analyze and scale recipes accurately, adjusting ingredient quantities to meet specific portion requirements.
   2. Apply mathematical concepts to calculate cost per portion, ensuring alignment with budgetary goals.
   3. Develop basic menu items that consider nutrition, dietary needs, and consumer preferences.
   4. Demonstrate understanding of portion control and plating techniques to ensure consistency in serving sizes.
   5. Explore ingredient substitutions to accommodate dietary needs without compromising taste or quality.

H. **The student demonstrates effective management and operational skills in a culinary setting. The student is expected to:**
   1. Practice efficient kitchen management techniques, including workflow planning and time management.
   2. Collaborate with peers in a kitchen environment, delegating tasks and supporting team efforts to achieve shared goals.
   3. Demonstrate conflict resolution skills in a culinary setting, focusing on professionalism and clear communication.
   4. Implement basic inventory management practices, including tracking and organizing ingredients for efficient use.
   5. Develop an understanding of kitchen roles and responsibilities, including the functions of front- and back-of-house operations.

I. **The student applies knowledge of customer service principles to enhance guest experiences. The student is expected to:**
   1. Demonstrate verbal and non-verbal communication techniques that convey professionalism and attentiveness in a culinary service environment.
   2. Recognize and respond to guest feedback constructively, adapting practices to improve service quality.
   3. Practice effective table presentation and service skills, including serving, clearing, and refilling.
   4. Apply principles of hospitality to create a welcoming and memorable dining experience for customers.
   5. Understand and implement strategies to handle customer complaints and issues with professionalism and composure.

Course Standards: Culinary Arts III

1. **GENERAL REQUIREMENTS.** This course is recommended for students in Grades 10-12.

2. **INTRODUCTION**
   A. Career and Technical Education (CTE) instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.
   B. The Hospitality, Events, & Tourism Career Cluster is dedicated to careers in the service, operation, and management of establishments involved in the preparation and serving of food and drinks with significant emphasis on providing exceptional culinary experiences and delivering high-quality customer service. These establishments vary widely, encompassing independently owned restaurants, nationwide restaurant chains, noncommercial dining facilities, bakeries, and catering services. Professionals in this career cluster span all aspects and levels of food preparation, including beverage specializations, as well as restaurant management, operations support, and health and safety.
   C. The Culinary Arts Program of Study offers high school students a comprehensive education in culinary techniques, food safety, and restaurant management, preparing them for careers in the Hospitality, Events, & Tourism Career Cluster. This program emphasizes the service, operation, and management of food establishments that allows students to progress through a structured curriculum, gaining hands-on experience, refining culinary skills, and developing a deep understanding of high-quality customer service, sanitation, and food preparation.
   D. Culinary Arts III introduces students to leadership skills in a kitchen setting, preparing them to manage small teams effectively. By the end of Culinary Arts III, students will be prepared to earn the ProStart Certificate of Achievement or the ACF Certified Fundamentals Cook certification, enhancing their readiness for more specialized culinary careers.
   E. Students will participate in at least two Career-Connected Education and Work-Based Learning experiences in this course, which might include informational interviews or job shadowing relevant to the program of study.
   F. Students are encouraged to participate in extended learning experiences through aligned Career and Technical Student Organizations (CTSOs). CTSOs are a cocurricular requirement in the Carl D. Perkins Act, and alignment to CTSO activities is an expectation for CTE programs in the state of Maryland.

3. **KNOWLEDGE AND SKILLS**
   A. **The student demonstrates the necessary skills for career development, maintenance of employability, and successful completion of course outcomes. The student is expected to:**
      1. Identify and demonstrate positive work behaviors that enhance employability and job advancement, such as regular attendance, promptness, proper attire, maintenance of a clean and safe work environment, and pride in work.
      2. Demonstrate positive personal qualities such as flexibility, open-mindedness, initiative, active listening, and a willingness to learn.
      3. Employ effective reading, writing, and technical documentation skills.
      4. Solve problems using critical thinking techniques and structured troubleshooting methodologies.
      5. Demonstrate leadership skills and collaborate effectively as a team member.

6. Implement safety procedures, including proper use of software and following privacy guidelines.
7. Exhibit an understanding of legal and ethical responsibilities in the culinary field, following copyright laws and regulations.
8. Demonstrate time-management skills and the ability to prioritize tasks in a technical setting.

B. **The student identifies various career pathways in the culinary and food service field. The student is expected to:**
   1. Develop a career plan that includes the necessary education, certifications, job skills, and experience for specific roles in culinary arts.
   2. Create a professional resume and portfolio that reflect skills, projects, certifications, and recommendations.
   3. Demonstrate effective interview skills for roles in baking and food service.

C. **The student develops technology and digital literacy skills. The student is expected to:**
   1. Use technology as a tool for research, organization, communication, and problem-solving.
   2. Use digital tools, including computers, mobile devices, collaboration platforms, and cloud services, to access, manage, and create information.
   3. Demonstrate proficiency in using emerging and industry-standard technologies, including culinary skills and applying creative techniques to create visually appealing and tasteful products.
   4. Understand ethical and legal considerations for technology use, including the principles of data protection, copyright, and responsible technology use.

D. **The student integrates core academic skills into culinary practices. The student is expected to:**
   1. Demonstrate the use of clear communication techniques, both written and verbal, that are consistent with industry standards.
   2. Apply English concepts such as writing informative texts when documenting the design process and articulating goals.
   3. Use mathematical concepts for measurement and conversion (Fahrenheit vs. Celsius), ratios and proportions as well as fraction and decimal conversions.

E. **The student demonstrates the necessary skills to apply advanced food safety and sanitation principles in a professional culinary environment. The student is expected to:**
   1. Conduct regular safety and sanitation audits to ensure compliance with health regulations and industry standards.
   2. Develop and implement protocols for allergen awareness and safe handling procedures to protect guests with dietary restrictions.
   3. Identify potential contamination risks and apply corrective actions to maintain a safe kitchen environment.
   4. Demonstrate advanced knowledge of foodborne illness prevention and outbreak response measures.
   5. Practice and model the principles of Hazard Analysis Critical Control Points (HACCP) for maintaining food safety.

F. **The student demonstrates refined culinary techniques and artistic presentation skills for high-quality culinary experiences. The student is expected to:**

1. Execute advanced cooking techniques, such as sous-vide, braising, and emulsification, with precision and consistency.
2. Utilize complex flavor-building techniques, such as reductions, infusions, and seasoning layering, to enhance dishes.
3. Experiment with food presentation, including plating, color balance, and garnishing, to create visually appealing culinary experiences.
4. Prepare menu items that integrate advanced flavor profiles, textures, and ingredient combinations.
5. Adapt and innovate recipes by incorporating seasonal ingredients and culinary trends.

G. **The student applies advanced menu planning and costing techniques to develop cost-effective and high-quality menus. The student is expected to:**
   1. Design multi-course menus that balance flavor, texture, and nutritional requirements for diverse audiences.
   2. Apply cost analysis skills to determine portion costs and make adjustments to ensure profitability.
   3. Utilize mathematical concepts to calculate yield percentages, adjust recipes, and determine ingredient needs.
   4. Explore alternative ingredients and substitutions to maintain budget constraints while achieving desired outcomes.
   5. Conduct market research to understand consumer preferences and integrate findings into menu development.

H. **The student demonstrates effective management and leadership skills necessary for culinary operations. The student is expected to:**
   1. Develop and lead team roles in kitchen operations, demonstrating skills in delegation, supervision, and quality control.
   2. Apply conflict resolution and problem-solving skills to address challenges in a professional kitchen environment.
   3. Implement inventory management systems, tracking product use and adjusting purchasing to minimize waste.
   4. Demonstrate knowledge of staff scheduling, task prioritization, and time management in kitchen operations.
   5. Model professional communication, motivating and mentoring team members to achieve shared culinary goals.

I. **The student integrates customer service principles with culinary excellence to enhance guest satisfaction. The student is expected to:**
   1. Apply knowledge of hospitality and service etiquette to provide exceptional dining experiences for guests.
   2. Practice customer engagement techniques to understand and fulfill guest preferences and dietary needs.
   3. Respond to guest feedback with professionalism, making adjustments to service practices when necessary.
   4. Demonstrate cultural awareness and sensitivity in menu offerings and customer interactions.
   5. Practice upselling techniques and menu knowledge to enhance guest satisfaction and increase revenue.

J. **The student prepares for a work-based learning experience by demonstrating professional skills in a culinary context. The student is expected to:**

1. Develop a professional resume, portfolio, or skills showcase highlighting culinary and managerial competencies.
2. Practice interview skills and demonstrate knowledge of workplace expectations in culinary settings.
3. Set career-related goals for a work-based learning experience, including specific skills to develop and refine.
4. Identify and research potential career paths in the culinary and hospitality industry, exploring required certifications and skills.
5. Demonstrate readiness to apply learned skills in a real-world environment by performing mock simulations of common culinary tasks.

Course Standards: Career Connected Learning I and II

Career connected learning is an educational approach that integrates classroom instruction with real-world experiences, enabling high school students to explore potential careers and develop relevant skills before graduation. By participating in work-based learning opportunities—such as apprenticeships, internships, capstone projects, and school-based enterprises—students apply academic concepts in authentic settings, gain practical industry knowledge, and build professional networks. This hands-on engagement helps students connect their studies to future career paths, strengthens their problem-solving and communication skills, and supports a smoother transition into college, vocational programs, or the workforce.

All Career and Technical Education Programs of Study include aspects of work-based learning, and almost all of the programs include two Career Connected Learning (CCL) courses. Below are the course descriptions for CCL I and CCL II. The CCL standards can be found via this link: