

STRANDS AND STANDARDS

CULINARY 3



Course Description

This course will train students for career opportunities in the food service/culinary arts industry. Safety and sanitation procedures will be implemented and practiced, as well as knowledge of use and care of commercial food service equipment. Quantity food preparation will be explored as it relates to catering, bakery, restaurant, hospitality, and quick service business operations. Student leadership and competitive events (FCCLA) may be integrated into this course.

Intended Grade Level	11-12
Units of Credit	1.0
Core Code	34.01.00.00.174
Concurrent Enrollment Core Code	
Prerequisite	Foods and Nutrition; Culinary 1
Skill Certification Test Number	347
Test Weight	1.0
License Type	CTE &/or Secondary Education 6-12
Required Endorsement(s)	
Endorsement 1	Family Consumer Sciences (CTE/General)
Endorsement 2	Culinary Arts
Endorsement 3	N/A

STRANDS 1

Differentiate knives and food service equipment function, proper use and care. (Suggested 6 days)

Standard 1

Identify types of knives, understand their proper use and care, and demonstrate proper knife safety.

- Types of knives, including chef, boning, paring, serrated
- Correct holding technique, sharpening, wash and storage

Standard 2

Identify common small ware food preparation equipment, and how it is to be safely used and cleaned. (i.e. knives, mandolin, piping tools, parisian scoop, scales)

Standard 3

Identify common food preparation and service equipment and how it is to be safely used and cleaned (e.g., convection oven, conventional oven, commercial dishwasher/sanitizer, ice machine, stand mixer, deep fat fryer, proofer, steam table, hotel pans, sheet pans, chafing dishes).

Standard 4

Identify and demonstrate different knife cuts, including:

- Batonnet— $\frac{1}{4} \times \frac{1}{4} \times 2\text{-}3$ inch
- Julienne— $\frac{1}{8} \times \frac{1}{8} \times 1\text{-}2$ inch, fine julienne- $\frac{1}{16} \times \frac{1}{16} \times 1\text{-}2$ inch
- Brunoise— $\frac{1}{8} \times \frac{1}{8} \times \frac{1}{8}$ inch
- Dice, small— $\frac{1}{4} \times \frac{1}{4} \times \frac{1}{4}$ inch; medium— $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$ inch; large— $\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$ inch
- Chiffonade—stack leaves, roll and slice into thin shreds
- Diagonal—cut on a 45 degree angle
- Rondelle—also called coin cut
- Mince - to cut or chop into very small pieces.
- Chop - to cut into uniform size when shape is not important.

Standard 5

Identify the process of mise en place.

- Mise en place (to put in place): organizing equipment and preparing ingredients (measuring, doing knife cuts) before you begin cooking.

STRANDS 2

Connect workplace safety, food safety, and sanitation as applied to food production. (Suggested 5 days)

Standard 1

Apply established safety rules and guidelines in a work environment.

- Identify prevention, protocol and treatment for cuts.

- Prevention
 - Use sharp knives, dull knives are more dangerous
 - Hold knife correctly, using the claw hand position on guide hand.
 - Use a stabilized cutting board.
 - Hold onto the knife handle while cleaning, do not soak.
- Protocol
 - Clean and sanitize the affected area and equipment as soon as possible.
- Treatment
 - Minor cuts clean wound, apply bandage and wear glove.
 - Sever cuts apply pressure and seek medical attention.
- Identify prevention, protocol and treatment for fires, chemical and heat related incidents.
 - Prevention
 - Avoid flammable materials or clothing on or near the range.
 - Turn handles away from the front of the range.
 - Lift lids on hot foods away from you.
 - Use hot pads or oven mitts for handling hot baking pans.
 - Keep equipment clean.
 - Keep chemicals away from food.
 - Protocol
 - To extinguish a fire use the correct fire extinguisher. (A, B, C, or K)
 - To extinguish a grease fire, cover/smother the pan, pour baking soda/salt. Avoid water, flour or sugar on grease fires.
 - Follow manufactures directions for all chemical use and storage, do not mix chemicals.
 - Chemical incident see Safety Data Sheet (SDS) for medical treatment and fire suppression.
 - Treatment
 - First Degree Burn and Second Degree Burn: immerse burn in cool water or use cool compress for 10-15 minutes.
 - Third Degree Burn: seek medical treatment
 - For Chemical Burn: seek medical treatment or call poison control.
- Identify prevention, protocol and treatment for break, strains and sprains.
 - Prevention
 - Keep floors clean and dry.
 - Post caution signs for wet floors.
 - Store heavy items on lower shelves.
 - Use ladders or step stools appropriately.
 - Lift heavy items appropriately.
 - Wear non-slip shoes.
 - Treatment
 - Seek medical attention.

Standard 2

Identify health and hygiene requirements for food handling.

- Identify proper hand washing.
 - Wash hands with soap and warm water for a minimum of twenty seconds, and dry with single use paper towel.

- Water should be a minimum of 100 degrees.
- Wash hands before and after handling raw meat, poultry or eggs.
- Wash hands after using restroom, sneezing, coughing, changing diapers, etc.
- Identify appropriate clothing and hair restraints.
 - Appropriate clothing is clean and may include chef coat, apron, or other uniform.
 - Cover and tie back hair with appropriate hair restraints before working with food.
- When tasting foods, always use a clean spoon and use only once.
- Discuss appropriate use of gloves.
 - Single use gloves only.
 - Wash hands before putting on gloves.
 - Change gloves when they get dirty, torn, or changing task.
 - Wear gloves when handling ready-to-eat (RTE) foods.
 - Wear gloves and bandage for an open cut or wound.
- Any activity involving eating, drinking, smoking/vaping, or chewing gum needs to occur in a designated area away from food preparation areas.

Standard 3

Identify the steps in the flow of food, including purchasing, receiving, storage, preparation, cooking, holding (hot/cold), cooling, reheating, and serving.

- Explain the purpose of the Hazard Analysis Critical Control Point (HACCP) system (i.e., to ensure keeping food safe through a system of identifying and monitoring critical control points).
- Discuss methods of purchasing, receiving, and storage.
 - Purchase from an approved reputable vendor.
 - FIFO (first-in first-out) rule (i.e., the food that has been in the holding area the longest will be used first).
 - Store food and cleaning supplies separately.
- Refrigerator and freezer temperatures (refrigerator: 41°F or lower; freezer: 0°F or lower).

Standard 4

Identify the factors contributing to food-borne contamination, illness, and prevention strategies.

- Discuss general concepts of food-borne illness.
 - Food-borne illness results from eating foods contaminated with pathogens.
 - General conditions for bacterial growth include food, acidity, time, temperature, oxygen, moisture (FAT TOM).
 - Contaminated food does not always have an off odor or flavor, so it may look and smell normal.
- Three types of food contamination hazards.
 - Physical - hair, glass, metal shards, fingernails.
 - Chemical - cleaning supplies and pesticides.
 - Biological - harmful micro-organisms (pathogens)
- Identify the four types of pathogen contaminants
 - Bacteria - tiny single cell micro-organism including Salmonella and E-coli.
 - Viruses - simple organism responsible for majority of foodborne illness - Norovirus and Hepatitis A.
 - Parasites - organism that must live in or on a host to survive ie. Giardia
 - Fungi - spore producing organism including yeast and mold. Typically, visible on spoiled food.

- Food-borne illness symptoms that exclude a worker from handling food may include the following:
 - Sore throat with fever
 - Jaundice
 - Diarrhea
 - Vomiting
 - Open and infected sores
 - Food handlers need to be symptom-free for 24 hours before handling food.
- Discuss prevention strategies.
 - Controlling Time and Temperature
 - In cold storage, place ready-to-eat (RTE) foods on top and uncooked animal products toward the bottom according to cooking temperature.
 - All TCS (Time and Temperature Control for Safety) foods need to be covered and stored in the refrigerator with a label including a use-by date, store at 41°F or lower, if produced on site for no more than 7 days.
 - Food should not be in the Danger Zone (the temperature range of 41-135°F), for longer than 4 hours total from start of preparation.
 - Cooking to safe internal temperatures; be sure to use a clean and sanitized thermometer.
 - Seafood, pork, beef, veal, lamb—145°F (for a minimum of 15 seconds)
 - Ground meats (pork, beef, veal, lamb) and eggs—155°F (for a minimum of 15 seconds)
 - All Poultry (whole or ground)—165°F (for a minimum of 15 seconds)
 - Reheat temp—165°F (for a minimum of 15 seconds)
 - Cooling and reheating foods to the correct temperature for the correct amount of time using proper equipment.
 - Keep hot foods hot and cold foods cold.
 - Hold hot 135°F and above.
 - Cold 41°F or lower.
 - Food needs to be cooled below 70°F within two hours and below 41°F within four more hours.
 - Methods include ice water baths, ice paddles, blast chiller, and dividing large amounts of food in small, shallow, covered containers for quick cooling.
 - Store foods in the refrigerator and freezer so that the cool air can circulate to keep food safe. Don't cover shelves or overcrowd.
 - Bring sauces, soups etc. to a boil when reheating; heat other TCS leftovers to 165°F (for a minimum of 15 seconds).
 - Safely thaw foods, including in the refrigerator, under cold running water, in the microwave, or as part of the cooking process.
 - Never defrost at room temperature.
 - Cold running water should not exceed 70°F.
 - The product should not exceed 41°F internal temperature.
 - If thawing food in the microwave, cook immediately.
 - Preventing cross contamination and cross contact.
 - Cross-contact happens when one food containing allergens comes in contact with a surface or food, thereby posing a hazard for persons having that allergy.
 - The big 8 allergens include: tree nuts, eggs, milk, soy, wheat, peanuts, fish, and shell fish
 - Cross-contamination is the unintentional transfer of pathogens from people, surfaces or food to another food.
 - Food Storage: food is 6 inches off the ground, label stored food correctly, store ready-to-eat (RTE) food separately or above raw food.

- Equipment Storage: Store service-ware and food containers upside down on a clean, sanitized surface, and store utensils with handles up.
- Food Preparation: clean and sanitize work area and equipment, wash hands between task, never place cooked food on a plate which has previously held raw meat, poultry or seafood.
 - When serving foods: no bare hand contact with RTE food.
- Identify proper sanitation techniques used with tools, equipment, and surfaces.
 - Discuss three-compartment sink dishwashing and the order used when washing and sanitizing dishes (i.e., rinse and scrape, wash, rinse, sanitize and air dry).
 - Frequently clean and sanitize work surfaces (i.e., counters).
 - Clean and sanitize cutting boards, dishes, tools, etc., after preparing each food item, or every four hours of continuous use.
 - Never place cooked food on a plate which has previously held raw meat, poultry or seafood without first cleaning and sanitizing the plate.

STRAND 3

Students will apply math concepts as they apply to controlling food costs, portion control, AP/EP, and menu costing. (Suggested 7 days)

Standard 1

Identify factors in controlling food costs.

- Monitor product through the flow of food to prevent loss.
- Employee training regarding food theft and waste.
- Forecasting sales.

Standard 2

Determine how portion control effects food costs.

- Portion cost
 - $\text{Total cost} \div \text{the number of portions} = \text{cost per portion.}$
 - Serving tools used to control portion size.

Standard 3

Identify concepts of purchasing food to control expenses.

- Purchasing prepared and processed food items increases product costs.
- Purchasing raw increases labor costs.
 - As Purchased (AP) is the product before any trimming, cutting, or cooking.
 - Edible Portion (EP) is the product after it has to be trimmed or cut.
 - Percent Yield is percentage of the remaining food after cutting, trimming, or cooking.
 - $\text{Edible Portion (EP)} \div \text{As Purchased (AP)} = \text{Percentage Yield}$
 - $\text{Edible Portion (EP)} \div \text{Percentage Yield} = \text{As Purchased (AP)}$
 - $\text{As Purchased (AP)} \times \text{Percentage Yield} = \text{Edible Portion (EP)}$

Standard 4

Calculate menu pricing.

- Food Cost Percentage: the percentage of sales an operation spends on food products.
 - The two main functions of menu pricing are:
 - Inform customers of cost.
 - Determine profitability of menu item.
 - If your food cost percentage is 30% of the menu price, the additional 70% covers profit and expenses such as labor, rent, utilities, equipment, and insurance.
 - Industry standard food cost percentage ranges 28-35%.
 - $\text{Cost Per Portion} \div \text{Food Cost Percentage} = \text{Menu Price}$
 - $\text{Cost Per Portion} \div \text{Menu Price} = \text{Food Cost Percentage}$
 - Menu item classification
 - A method to determine popularity and profitability of each menu item.
 - Star—high profit, high popularity
 - Plow Horse—low profit, high popularity
 - Dog—low profit, low popularity
 - Puzzle—high profit, low popularity

STRAND 4

Students will demonstrate menu planning principles. (Suggested 4 days)

Standard 1

Evaluate nutrition principles and specialized dietary plans.

- Food guidance programs as per the USDA.
 - Nutritional considerations: Carbohydrates, Protein, Fats, Vitamins, Minerals, Water
- Special Dietary Needs
 - Food allergies produce histamine when a particular food is eaten.
 - Common food allergens: eggs, milk, nuts, soy, wheat, and seafood
 - Intolerances is the body's inability to process or breakdown.
 - Common food intolerances: celiac, lactose
 - Modification may be needed for low sodium, low fat, vegan, etc.

Standard 2

Compare menu types.

- Types of menus
 - Static, fixed: Still or unchanging
 - Cycle: Non-commercial segment
 - Market: Food available in the market
 - Examples of menus from all categories
 - Table d' hote/Prix Fixe—Complete meal at one price
 - banquet, buffet
 - A la Carte—All items priced and ordered separately
 - California—All items offered all day
 - Menu design and construction:
 - Basic menu layout and organization
 - Food descriptions and photos

- Themes, colors and fonts
- Pricing psychology - odd cent, pricing by the ounce, and others

STRAND 5

Students will explore marketing and identify the applications of marketing strategies. (Suggested 2 days)

Standard 1

Define marketing.

- Marketing: the process of attracting and influencing potential customers.
 - Factors to consider when determining marketing strategies include location, population, and demographics
 - Marketing strategies:
 - Public relations—sponsorships, charity events
 - Sales Promotions—cost incentives like a 2 for 1, rewards or loyalty programs, samples
 - Advertising-- websites, television, radio; usually cost is involved
 - Direct Marketing—email, digital media, mailers
 - Personal Selling—training employees on how to sell the menu, influencers

STRAND 6

Students will integrate knowledge and skills as applied to preparation of eggs, milk and milk products. (Suggested 6 days)

Standard 1

Discuss the selection and preparation of eggs.

- Grade or quality, this decreases with age.
 - Grades: AA, A, B
- Size (is determined by weight per dozen)
 - Largest to smallest; Jumbo, Extra Large, Large, Medium, Small and Peewee.
 - Standard recipes use large eggs (approx. 2 oz. per egg).
- Purchase form
 - fresh- sold in shell, or pooled (in a container or bag)
 - frozen- high quality fresh, whole eggs that are pasteurized and frozen.
 - dried- used mostly for baked goods and commercial use
- Color- Shell color is determined by the breed of chicken that lays it. It is not an indicator of taste or nutrition.
 - Eggs can be prepared many ways.
 - Fried/sautéed- over medium heat
 - Sunny-side up: yolk is unbroken, egg is not flipped during cooking, the white is firm, yolk is runny
 - Basted: a type of sunny side up in which the white is cooked by spooning hot butter over the egg while frying, or adding a little water to the pan/grill and covering the egg to steam it.

- Over-easy, over-medium, over-hard: egg is turned over while cooking, named by yolk consistency.
- Scrambled: made with whole or egg whites, cooked over low/medium heat while gently stirring.
- Omelets—whisked eggs prior to cooking and can be filled with vegetables, cheese and/or meats
 - Frittata: open faced omelets of Spanish origin, the hearty fillings are mixed directly into the eggs, cooked on the stove and transferred to oven or broiler to finish cooking through, cut into wedges for serving.
- Poached: best to use very fresh eggs that will hold their shape, eggs are removed from the shell and cooked in gently simmering water, white should be firm and yolks runny
- Simmered in shell, to the desired doneness, cool quickly to avoid discoloration.
 - Soft: simmered 4-6 minutes
 - Hard: simmered for 12-15 minutes
- Baked
 - Shirred: prepared in individual ramekins. The whites should be set while the yolks are soft and creamy.
 - Quiche: an egg custard and fillings baked in a crust

Standard 2

Define and discuss milk and milk products.

- Processing prior to purchase
 - Pasteurization: the process of heating milk to destroy pathogens.
 - Homogenization: the process in which the fat particles in milk are reduced in size and dispersed throughout the liquid
- Milk is labeled and sold by fat content; skim, 1%, 2% and whole (4%)
- Cream is also labeled and sold by fat content
 - Half and half= 10-18% fat
 - Light cream= 18-30% fat
 - Regular whipping cream= 30-36% fat
 - Heavy cream: has at least 36% fat
- Cultured dairy is made by adding specific bacterial cultures to fluid dairy products. The bacteria convert the milk sugar to lactic acid. The acid slows growth of undesirable microorganisms. The lactic acid gives these product tang, body and unique flavors.
 - buttermilk, sour cream, creme fraiche, and yogurt
- Butter is produced by agitating cream. Regular composition is 80% fat, 16% water, 2-4% solids (protein, lactose etc.)
 - Sweet: no salt added
 - Salted: 1.7% the addition of salt increases the amount of time it can be stored and enhances flavor
 - Clarified: water and solids removed, to increase the smoking point
- Cheese
 - Fresh/unripened: cream cheese, marscarpone, mozzarella, queso oaxaca, ricotta
 - Soft: brie boursin, camembert, taleggio
 - Semi-soft: cabrales, fontina, gorgonzola, gouda, havarti, jack, provolone
 - Firm: cheddar, emmenthaler, gruyere, jarlsberg, manchego

- Hard: asiago, parmesan, romano
- Processed cheese: American, cheese spread, canned cheese

STRAND 7

Students will identify characteristics of produce including fruits, vegetables and garnishes while applying preparation principles. (Suggested 4 days)

Standard 1

Identify characteristics of produce (fruits and vegetables, appropriate selection of, storage and preparation methods.

- Selecting quality produce.
 - Produce can be purchased fresh, canned, frozen, dried, preserved
 - Fresh produce in season will be generally of a higher quality and lower cost.
- Proper storage of produce.
 - The temperature for storing produce varies.
 - To finish ripening produce, store at room temperature.
 - Produce that are already ripe should be chilled to slow ripening.
 - Starchy vegetables such as potatoes, winter squash and vegetables in the onion family, are best stored at 60-70°F. in a dry location.
 - In food service plan to keep fresh produce in inventory no longer than a week.
- Enzymatic browning is the process of food turning brown from exposure to oxygen and/or cell damage.
 - Foods prone to enzymatic browning include apples, potatoes, bananas, avocados, peaches, and pears.
 - A variety of methods can be used to prevent it.
 - Submerged in water.
 - Lemon juice and other acids that lower the pH.
 - Blanching or other forms of cooking denature the enzymes.
 - Lower temperatures can slow the speed of reactions.
 - Discuss various cooking techniques and their effect on nutrient preservation/loss.
 - Dry heat tends to preserve nutrients and flavors
 - Dry heat cooking methods include: grilling/broiling, roasting/baking, deep frying, sautéing/stir frying
 - Moist heat can result in significant nutrient loss.
 - To help prevent nutrient loss, cook for a minimum amount of time and use as little water as possible.
 - Moist heat cooking methods include: blanching/par boiling, steaming, simmering, braising, boiling

STRAND 8

Students will identify the characteristics of grains, pasta, potatoes and legumes and appropriate cooking methods. (suggested 6 days)

Standard 1

Identify the characteristics of and cooking methods for grains.

- Characteristics
 - Long grain rice—stays light and fluffy after cooking, commonly used in pilaf.
 - Medium grain rice—moist, tender, slightly chewy grains, commonly used in risotto and paella.
 - Short grain rice—sticky, commonly used in sushi.
 - Brown rice—the whole grain form of any length of rice.
 - Instant rice—precooked and dehydrated, cooks rapidly.
 - Converted rice—partially cooked with steam and fortified when dried.
 - Quinoa—high in protein and has all of the essential amino acids.
 - Barley, farro and spelt—types of wheat, commonly used in soups and salads.
 - Oats—can be rolled, cut, or used whole, commonly used as a cereal.
 - Corn—considered a grain when dried, it can be ground fine, medium or coarse.
- Storage
 - Store dry grains in a cool dry place.
 - After cooking, grains are a TCS food.
- Cooking techniques
 - Cooking methods
 - Boil: boiled in unmeasured amount of water, when cooked excess water is drained.
 - Steam: added to a measured amount of liquid, covered and cooked. This can take place in the oven, microwave or stove top.
 - Braise: sautéed, then a measured amount of liquid is added. Also known as pilaf.
 - Risotto: cooked while stirring in warm liquid a little at a time.

Standard 2

Identify the ingredients, types and cooking methods for pasta.

- Ingredients
 - Flour—most common is semolina wheat.
 - Liquid—water, eggs and oil
 - Other ingredients are often added to change texture, color, and flavor.
- Types and uses
 - The name of the pasta is determined by the shape.
 - The shape of the pasta determines what sauce to use.
- Cooking pasta
 - Pasta is usually added to boiling water and cooked until al dente.

Standard 3

Identify the characteristics of and cooking methods for potatoes.

- Characteristics
- Russet, yellow, red, white, blue/purple, fingerling, petite, and sweet potato
 - Cooking techniques—potatoes are very versatile they may be cooked using almost any dry or moist heat method.
- Cooking methods—potatoes are very versatile they may be cooked using almost any dry or moist heat method.
 - Different types of potatoes produce a better outcome for certain dishes.
- Receiving, storage and handling

- Store potatoes in a cool, dry, dark, well ventilated place – not the refrigerator.
- Before use, scrub and rinse well.
- After cutting potatoes, if you are not cooking them right away, cover with water to prevent browning.

Standard 4

Identify the types and storage of legumes.

- Types of legumes—Beans, Lentils, Peanuts, Peas, Soybeans
- Storage
 - Store dry legumes in a cool dry place.
 - After cooking, legumes are a TCS food.

STRAND 9

Students will identify sustainable practices in food service. (suggested 2 days)

Standard 1

Describe sustainable food practices.

- local sourcing—seasonal menus, personal production, shopping locally
- food production—organic, protecting marine resources, ecology, extending shelf life

Standard 2

Investigate methods of resource management.

- Water Conservation—energy star appliances, maintain and repair immediately, low flow toilets and faucet aerators
- Energy Conservation—lighting, programmable thermostats, energy star rated appliances
- Supplies and Building Materials
 - Supplies—paper products, reusable vs. disposable
 - Building—LEED certified (leadership in energy and environmental design)

Standard 3

Analyze waste management applications.

- Reduce—Monitoring purchasing, menu adjustments, portion size, packaging
- Reuse—repurposing food, food donations
- Recycle—environmental food packaging, biofuels, composting

STRAND 10

Students will recognize various types of poultry, meat and seafood and apply appropriate cooking techniques. (suggested 8 days)

Standard 1

Explain types, purchasing, preparation, and storage of poultry.

- Types—poultry include turkey, chicken, duck, goose, pheasant, quail, and other birds
- Purchasing—mandatory inspection and voluntary grading
- Storage—41 degrees or lower on the lowest shelf in the refrigerator
- Preparation—dry or moist cooking methods
 - Cooking temperatures: All poultry (whole or ground) must be cooked to a minimum temperature of 165°F.
 - Fabrication: the process of cutting or breaking down the meat/poultry into its usable parts.

Standard 2

Explain types, purchasing, preparation, and storage of meats.

- Types—beef, pork, veal, lamb
- Purchasing—mandatory inspection and voluntary grading
- Types—beef, pork, veal, lamb
- Purchasing—mandatory inspection and voluntary grading
- Storage—41 degrees or lower, below ready-to-eat foods and above raw poultry.
- Preparation
 - Fabrication
 - Wholesale cuts
 - More tender from support muscles
 - Less tender from movement muscles
 - Retail cuts—examples include roast, steak, chops, stew meat and ground.
 - Tenderizing methods:
 - Mechanical: grinding, needling, pounding, cutting thin
 - Chemical: marinating and meat tenderizers
 - Cooking: slow and dry (i.e., smoking), slow and moist (i.e., stewing, braising, cooking in a slow cooker)
 - Cooking methods
 - Dry heat is commonly used with tender cuts.
 - Moist heat is commonly used with less tender cuts.
 - Cooking temperatures
 - Beef, veal, pork and lamb roasts, steaks and chops: minimum internal temperature is 145°F.
 - All ground red meats: minimum internal temperature of 155°F.

Standard 3

Explain types, purchasing, preparation, and storage of seafood.

- Types
 - Fin fish—Round fish, flat fish
 - Shellfish—Crustaceans, Mollusks, Cephalopods
- Purchasing—slight sea smell, eyes clear and full, gills bright red, flesh firm, shells closed
- Storage—41 degrees or lower, below ready-to-eat foods and above raw meat and poultry.
- Preparation
 - Fabrication for fin fish
 - Drawn, dressed, pan dressed, filet, steaks
 - Cooking methods depend on the size of portion and type of fish.
 - Cooking temperatures: fin fish are recommended to cook at 145°F. Shellfish need caution not to overcook

STRAND 11

Students will explore and participate in bakery food production. (Suggested 15 days)

Standard 1

- Identify the functions and types of each ingredient used in bakery products.
- Flour
 - Flour provides structure.
 - Types
 - Bread, all purpose, pastry, whole wheat
 - Non-wheat (usually made to be gluten free). These come from other starchy plants, such as corn, barley, oats, potatoes, beans, and rice.
- Sugar
 - Sugar provides flavor, color, food for yeast, tenderizer, and a stabilizer for egg whites.
 - Types
 - Syrups: honey, molasses, corn, maple
 - Sugars: brown, turbinado/raw, course/sanding, granulated, super fine/bakers/caster, confectioners/powdered
 - Fruit puree and juice
- Fats
 - Fats provide tenderness, flavor, moisture, browning, and flakiness.
 - Types
 - Shortening—made from vegetable oil that is hydrogenated.
 - Oil
 - Butter—it can be purchased salted or unsalted.
 - Margarine—made from hydrogenated vegetable oil with color, flavor and water added.
- Leavening
 - Leavening agents are what make baked goods rise and have a light tender texture and good volume.
 - Types:
 - Yeast
 - Chemical
 - Baking soda/sodium bicarbonate: needs an acid to make a chemical reaction that produces carbon dioxide.
 - Baking powder: made of baking soda, a dry acid such as cream of tartar, and a moisture absorber such as corn starch. When mixed with a liquid the ingredients combine to produce carbon dioxide.
 - Physical
 - Eggs—air is introduced by creaming or whisking and is trapped in the protein then it expands when it gets hot.
 - Steam—during baking water evaporates and expands.
- Salt:
 - Adds flavor to food and brings out the flavor of the other ingredients.
- Eggs
 - Functions
 - Structure—contributes to the structure.

- Emulsification—blends ingredients.
- Leavening
- Flavor—when used in large amounts, such as in pate' choux and challah bread.
- Color
- Packaging types
 - Shell eggs—sold in flats that hold 30 eggs. If stored properly at 41°F or below, they will last up to four weeks beyond the packing date.
 - Egg products—eggs that have been removed from the shell and pasteurized.
- Liquids
 - Functions
 - form the gluten structure
 - activate leavening agents
 - some give flavor, tenderize, add moisture, and help with browning
 - Types
 - Water
 - Milk and cream
 - Eggs
 - Syrups
 - Fruits and juices
 - Butter, oil, and margarine
- Flavorings
 - Effects taste and color of the final baked product.
 - Types
 - Extracts—liquid flavorings
 - Spices—bark, roots, flower buds, berries or seeds of aromatic plants.
 - Nuts
- Chocolate
 - Comes from cacao beans harvested from the pod, roasted, chopped into nibs, crushed into a paste called chocolate liquor, and possibly sweetened and flavored (called bittersweet chocolate), or pressed to separate into liquid called cocoa butter and solids that are ground into cocoa powder.
- Types
 - Unsweetened—a mixture of chocolate liquor and cocoa butter
 - Semisweet—a mixture of chocolate liquor, cocoa butter and sugar
 - Milk chocolate—chocolate liquor, cocoa butter, sugar and powdered, sweetened condensed or liquid milk.
 - White—sweetened cocoa butter
 - Cocoa powder—ground solids
 - Dutch-processed cocoa powder—treated with alkali to reduce acidity

Standard 2

Identify the types, preparation, and storage methods of yeast breads.

- Types:
 - Lean—very little or no sugar or fat—dry, chewy crumb and hard crust.
 - Rich—addition of shortening, butter, sugars, eggs, milk or cream—moist, with a soft structure and fine crumb

- Preparation methods
 - Straight-dough—mix all the ingredients together in one step.
 - Modified straight dough—yeast is activated before adding remaining ingredients.
 - Sponge method—First sponge (water, yeast, and flour) is made and allowed to ferment. Second, final ingredients are added.
 - Rolled in dough—dough that has layers of fat folded and rolled in, resulting in a rich, flakey texture.
- Packaging and storing
 - Cool completely before packaging.
 - Best if used within one day in a food service operation.
 - If keeping for more than one day, wrap tightly, and freeze to prevent from going stale.

Standard 3

Identify the types, preparation, and storage methods of pies and pastries.

- Types doughs and fillings:
 - Basic pie dough, 3-2-1 dough, referring to the ratio of flour to fat and water.
 - Crumb crust made from crackers or cookies.
 - Pate Choux—light pastry dough containing fat, liquid, flour, and eggs.
 - Puff Pastry—light pastry made from laminated dough.
 - Cream—sweet pastry cream filling. Examples are coconut, banana and chocolate silk.
 - Custard—made with eggs that set when baked. Examples are pumpkin and pecan.
 - Chiffon—an airy filling stabilized with gelatin. Beaten egg whites or whipped cream are folded in.
 - Fruit
 - Savory
- Preparation
 - Do not overmix or over-handle pie dough, it will result in a tough texture.
 - Shells that are baked empty before filling are known as baking blind.
- Storage
 - Baked fruit pies can be held at room temperature 1-2 days. Do not freeze.
 - Unbaked fruit pies or empty shells can be frozen for up to 2 months
 - Cream pies need to be refrigerated and used with 2-3 days. Do not freeze.
 - Pate choux shells can be baked, cooled, and frozen.

Standard 4

Identify the preparation and storage methods of cakes and types and functions of icings.

- Preparation methods for cakes
 - Creaming—Cream fat, sugar and salt, add the eggs and other liquids; add the sifted dry ingredients.
 - Sponge—Fold in the dry ingredients into the whipped whole eggs, then fold in the melted cooled butter.
 - Foam—Egg whites, liquid flavorings and part of the sugar are whipped to stiff peaks; remaining sugar and flour are folded in. Cooled upside down.
- Storage of cakes
 - Can be frozen for up to one month.

- Types of frosting/icings
 - Buttercream
 - Fondant
 - Ganache
 - Glaze
- Functions of frosting/icings.
 - Creates a protective coating for baked goods
 - Contributes to flavor and richness
 - Improves appearance

Performance Skills

PERFORMANCE SKILL 1

Demonstrate competency with all the knife cuts listed in Strand 1 Standard 4.

PERFORMANCE SKILL 2

Students will complete a sanitation and food safety training equivalent to or higher than that of a food handler's permit or certificate.

PERFORMANCE SKILL 3 Students will create a short presentation or portfolio explaining one culinary math concept from STRAND 3. See FCCLA Star Event Culinary Math Management.

PERFORMANCE SKILL 4 Students will create a menu including menu descriptions and price.

PERFORMANCE SKILL 5 Students will prepare a dish that includes eggs, milk, or milk products.

PERFORMANCE SKILL 6 Students will prepare and present a food item containing produce.

PERFORMANCE SKILL 7 Students will prepare a product containing one of the following: grains, pasta, potatoes or legumes.

PERFORMANCE SKILL 8 Students will prepare meat, poultry or seafood using an appropriate cooking method.

PERFORMANCE SKILL 9 Plan, calculate cost, prepare and present a bakery item for a minimum of 30 people.

FCCLA Integration into Culinary 3:

STAR Events: Career Investigation, Entrepreneurship, Environmental Ambassador, Illustrated Talk, Interpersonal Communications, Job Interview, Leadership, Life Event Planning, Nutrition & Wellness, Advocacy, Chapter Service Project Display, Chapter Service Project Portfolio, National Programs in Action, Applied Math for Culinary Management, Culinary Arts, Food Innovations, Hospitality, Tourism and Recreation, Sports Nutrition.

Skill Demonstration Events: Culinary Chicken, Culinary Food Art, Culinary Knife Skills, Consumer Math, Culinary Math, Hospitality, Tourism and Recreation, Nutrition, Science in FACS.

National Programs: Career Connection, Leadership Service in Action, Power of One, Student Body

Workplace Skills

Students will develop professional and interpersonal skills needed for success in industry. Determine the difference between hard skills and soft skills.

- Hard Skills: Hard skills are specific, teachable abilities that can be defined and measured
- Soft Skills: Personal attributes that enable someone to interact effectively and harmoniously with other people.

Identify soft skills needed in the workplace

- Professionalism
- Respect Legal requirements/expectations
- Good communication skills
- Resourcefulness & creativity
- Work Ethic