

## **V. Related Technical Instruction/Educational Institution**

**Standard: Title 29.5 (b)(4)**

### **Related Instruction**

Apprentices must complete a total of 445 (minimum) contact hours of related instruction over the term of apprenticeship. ACFEF NAC recommends that students spend a minimum number of classroom hours in each of competency areas of related instruction. The minimum number of instructional hours for each competency area or combined competency area will be:

<b><u>Hours</u></b>	<b><u>Competency Area:</u></b>
20	Introduction to Food Service
30	Sanitation and Safety
120	Food Preparation
30	Food Cost Accounting
30	Beverage Management
30	Nutrition
30	Garde Manger
75	Menu Planning
20	Basic Baking
30	Purchasing and Receiving
30	Supervisory Management

### **Suggested Curriculum**

ACFEF NAC recommends that there must be some flexibility in terms of the titles, scope, and scheduling of courses to accommodate the policies of the educational institution. However, it is imperative that sanitation and safety be taught early in an apprentice's education.

### **Cook Apprentice**

1. Introduction to Food Service
2. Sanitation and Safety
3. Food Preparation
4. Food Cost Accounting
5. Beverage Management and Dining Room Service
6. Nutrition
7. Garde Manger
8. Menu Planning
9. Basic Baking
10. Purchasing and Receiving
11. Supervisory Management

### **Pastry Cook Apprentice**

1. Introduction to Food Service
2. Sanitation
3. Basic Baking
4. Food Cost Accounting

5. Beverage Management and Dining Room Service
6. Nutrition
7. Food Preparation
8. Menu Planning
9. Purchasing and Receiving
10. Supervisory Management
11. Advanced Baking, Pastry and Confections

### **Required Knowledge**

The Accrediting Commission of the American Culinary Federation has developed *Knowledge and Competencies* areas which state what culinary professionals expect students to know upon completion of a two year post-secondary education program. The ACFEF recognizes these standards as the core for apprenticeship related instruction. These competencies are wholly separate from the practical competencies laid out in the Logbook.

These competencies and courses serve as a guide for the development and the delivery of instruction. By reviewing the competencies, one will be helped in determining what the best course textbook will be, what should be in the course outline; and for which areas the student will be tested.

### **Introduction to Food Service:**

**Purpose:** To develop an understanding of the hospitality industry and career opportunities in the field. To investigate trade publications and professional organizations appropriate for continuing education. To become familiar with the organizational structure and basic functions of departments within the hospitality and food service establishments.

**Competencies:** Student will be able to --

1. Define hospitality and tourism with examples of current industry philosophies.
2. Trace the growth and development of the hospitality and tourism industry.
3. Describe the various cuisines and the relationship to history and cultural development.
4. Identify professional hospitality organizations and explain purposes and benefits to the industry.
5. Outline the organization, structure and functional areas in various hospitality organizations.
6. Evaluate career opportunities utilizing field trips, guest speakers and other industry resources.
7. Discuss/evaluate industry trends as they relate to career opportunities and the future of the industry.
8. Discuss and evaluate industry trade periodicals.

### **Sanitation and Safety**

**Purpose:** To develop an understanding of the basic principles of sanitation and safety and to be able to apply them in the food service operations.

**Competencies:** Student will be able to --

1. Identify the Hazard Analysis Critical Control Point (HAACP) during all food handling processes as a method for minimizing the risk of foodborne illness.
2. Identify microorganisms which are related to food spoilage and foodborne illnesses; describe their requirements and methods for growth.
3. Describe symptoms common to food borne illnesses and how illness can be prevented.

4. Demonstrate good personal hygiene/health practices.
5. Describe cross contamination and use of acceptable procedures when preparing and storing potentially hazardous foods.
6. List the majority of reasons for and recognize signs of food spoilage and contamination.
7. Outline the requirements for proper receiving and storage of both raw and prepared foods.
8. Recognize sanitary and safety design and construction features of food production equipment and facilities (i.e. NSF, UL, OSHA, ADA, etc.)
9. Describe current types of cleaners and sanitizers and their proper use.
10. Review Material Safety Data Sheets (MSDS) and explain their requirements in handling hazardous materials. Discuss right-to-know laws.
11. Develop cleaning and sanitizing schedule and procedures for equipment and facilities.
12. Identify proper waste disposal methods and recycling.
13. Describe appropriate measures for insects, rodents and pest control and pest control irradiation.
14. Conduct a sanitation self-inspection and identify modifications necessary for compliance with standards.
15. List common causes of typical accidents and injuries in the food service industry and outline a safety management program.
16. Discuss appropriate emergency policies for kitchens and dining room injuries.
17. Describe appropriate types and use of fire extinguishers used in food service area.
18. Outline laws and rules of the regulatory agencies governing sanitation and safety in food service operation.
19. Wear professional chef's attire emphasizing acceptable standards of personal hygiene.

### **Food Preparation**

Purpose: To develop skills in knife, tool, and equipment handling and apply principles of food preparation to produce a variety of food products, to operate equipment safely and correctly, to apply knowledge of laws and regulations relating to safety and sanitation.

Competencies: Student will be able to --

1. Demonstrate knife skills, hand tool and equipment operation, emphasizing proper technique.
2. Demonstrate how to read and follow a recipe as well as identify and select mise en place necessary for dishes
3. Identify and demonstrate proper use of utensils, pots and pans.
4. Demonstrate a variety of cooking methods including roasting and baking, broiling, smoking, grilling, griddling, sautéing, frying, deep frying, braising and stewing, poaching and steaming.
5. Utilize weights and measures to demonstrate proper scaling and measurement techniques.
6. Identify and use herbs, spices, oils and vinegars.
7. Identify and prepare various meats, seafood and poultry.
8. Identify and prepare various stocks, soups and sauces including mother sauces and their derivatives
9. Identify and prepare various fruits, vegetables, starches and farinaceous items.
10. Identify and prepare various salads, dressings, and marinades.
11. Identify and prepare sandwiches.
12. Identify and prepare canapés and hor d'oeuvre.
13. Identify and prepare breakfast meats, eggs, cereals, and batter products.
14. Demonstrate food presentation techniques.
15. Discuss the applicability of convenience, value added, further processed or par-cooked food items.

16. Write standardized recipes.
17. Prepare written requisitions for production requirements.

### **Food Cost Accounting**

Purpose: To perform mathematical functions related to food service operations.

Competencies: Student will be able to --

1. Demonstrate a working knowledge of food related mathematics to include costing of menu items
2. Calculate food, beverage and cost percentages.
3. Calculate labor cost and percentages.
4. Demonstrate process of recipe yield adjustment.
5. Determine selling price of menu items.
6. Describe preparation of a guest check.
7. Calculate payroll tax, tip credit and other employee-related tax computations.
8. Develop a financial statement for a food service operation.
9. Perform calculations using current technology (i.e. computers, calculators, POS).
10. Demonstrate consistency in portioning of foods in relationship to quantity and cost
11. Outline the benefits offered the employees and relate the cost of these benefits to the company

### **Beverage Management and Dining Room Service**

Purpose: To become familiar with and varieties of alcoholic and non-alcoholic beverages, to develop an appreciation for wine and food affinity. To explain laws and procedures related to responsible alcohol service. To perform dining room service functions using a variety of types of service, to demonstrate an understanding of quality customer service.

Competencies: Student will be able to --

1. Demonstrate the general rules of table settings and service.
2. Demonstrate specific American, English, French and Russian service.
3. Discuss food delivery systems such as banquets, buffets and catering.
4. Describe the functions of dining service.
5. Discuss training procedures for dining room staff.
6. Discuss procedures for processing guest checks.
7. Demonstrate an understanding of guest service and customer relations, including handling of difficult situations and accommodations for the disabled.
8. Explain inter-relationships and work flow between dining room and kitchen operations.
9. Discuss sales techniques for service personnel including menu knowledge and suggestive selling.
10. Identify all local, state and federal laws pertaining to the purchase and service of alcoholic beverages.
11. Distinguish the basic production process for distilled spirits, liqueurs, beer and brandies.
12. Distinguish wines by grape and/or other fruit variety, country, growing region and production process.
13. Evaluate the relationship of beverages to food.
14. Identify the preparation, presentation and service of alcoholic, non-alcoholic and de-alcoholized beverages
15. Identify and be able to prepare multiple varieties of teas and coffees
16. Identify equipment and glassware used for beverage preparation and service.

17. Discuss opening and closing procedures of a beverage operation.
18. Identify levels of intoxication and methods to control consumption by guests. Discuss Dram Shop Act and liquor law liability.
19. Explain procedures for implementing internal beverage controls.

## **Nutrition**

Purpose: To describe the characteristics, functions, and food sources of the major nutrients and how to maximize nutrient retention in food preparation and storage. To apply the principles of nutrient needs throughout the life cycle to menu planning and food preparation.

Competencies: Student will be able to --

1. List the six food groups in the current USDA Food Guide Pyramid and the recommended daily servings from each. List the major nutrients contributed by each of the food groups.
2. Discuss the new dietary guidelines and adapt recipes
3. Evaluate diets in terms of the recommended dietary allowances.
4. Describe the characteristics, functions and sources of the major nutrients.
5. List the primary functions and best sources of each of the major vitamins and minerals.
6. Describe the process of human digestion.
7. Calculate energy needs upon basal metabolic rate and exercise expenditure.
8. Discuss and demonstrate cooking techniques and storage principles for maximum retention of nutrients.
9. Categorize foods into exchange groups and plan menus applying the exchange system.
10. Identify common food allergies and determine appropriate substitutions.
11. Discuss contemporary nutritional concerns such as vegetarianism, heart healthy menus and religious dietary laws.
12. Identify ways to reduce fats, oils, calories, and salts in all facets of cooking.

## **Garde Manger**

Purpose: To develop skills in producing a variety of cold food products, To prepare items appropriate for buffet presentation, including decorative pieces.

Competencies: Student will be able to --

1. Identify tools and equipment used in cold food & pantry.
2. Emphasize safety and sanitation procedures.
2. Demonstrate basic garnishes.
3. Prepare cold items to include soups, salads, sauces, dressings, marinades, relishes, sandwiches, canapés and hor d'oeuvres.
4. Demonstrate fundamental knowledge in the uses of and prepare an aspic.
5. Prepare forcemeat such as pates, galantines, ballantines, terrines and sausages.
6. Prepare mousses and gelatins.
7. Demonstrate food presentation techniques, i.e. platters, bowls and plates.
8. Produce decorative pieces to include fruit, vegetable carvings and accompaniments.

## **Menu Planning**

Purpose: To apply the principles of menu planning and layout to the development of menus for a variety of types of facilities and service.

Competencies: Student will be able to --

1. Demonstrate a working knowledge of menu selection, working with emphasis on determining the use of food items on the menu that are most suitable for a particular establishment
2. Design a three-course menu to include recipes, a complete listing of food costs by item, profit margins by item, and layouts
3. Create menu item descriptions following established truth-in-menu guidelines.
4. Apply principles of nutrition to menu development.
5. Determine menu prices utilizing proper cost controls.
6. Plan a la carte, cycle, ethnic, banquet and buffet menu.
7. Discuss importance of product mix, check average and their impact on profit contribution.
8. Develop a menu layout for a food service operation.

### **Basic Baking**

Purpose: To apply the fundamentals of baking science to the preparation of a variety of products. To use and care for equipment normally found in the bake shop or baking area.

Competencies: Student will be able to --

1. Define baking terms.
2. Identify equipment and utensils used in baking and discuss proper use and care.
3. Demonstrate proper selection of equipment and utensils for specific application including décor work.
4. Identify ingredients used in baking and demonstrate misé en place.
5. Operate scales and demonstrate accuracy in scaling
6. Convert recipes using the US and Metric systems
7. Describe properties and list function of various ingredients.
8. Prepare yeast dough and yeast dough products
9. Prepare rolled-in dough and rolled-in dough products
9. Produce quick breads.
10. Produce a variety of types of pies and tarts.
11. Produce a variety of types of cookies.
12. Prepare a variety of types of cakes and describe techniques used in mixing, panning, baking and basic decorating.
13. Demonstrate basic icing and decorating techniques.
14. Prepare laminated dough's.
15. Prepare choux pastries.
16. Prepare meringue.
17. Prepare creams, custards, puddings and related sauces.
18. Prepare a variety of dessert sauces.
19. Discuss the application of mixes and other labor saving products.
20. Discuss nutritional concerns as they apply to baking, including recipe modifications.
21. Prepare soufflé.
22. Prepare fritters, crepes, cobblers and crisps
23. Prepare a variety of fillings and toppings for pastries and baked goods.

### **Purchasing and Receiving**

Purpose: To understand the overall concept of purchasing and receiving practices in quality food service operations. To apply knowledge of quality standards and regulations governing food products to the purchasing function. To receive and store food and non-food items properly.

Competencies: Student will be able to --

1. Discuss the market cycle of goods into a foodservice operation.
2. Describe the formal and informal purchasing methods. (i.e. bid, phone, etc.)
3. Analyze market fluctuation and the effect on product cost.
4. Discuss legal and ethical considerations of purchasing.
5. Explain current regulations for inspecting and grading of meats, poultry, seafood, eggs, dairy products, fruits and vegetables.
6. Outline USDA yield and quality grades and National Association of Meat Purveyors (NAMP) specifications for meats.
7. Write a bid specification for a menu entree.
8. Evaluate received goods to determine conformity with user specifications and agreed upon price.
9. Describe proper techniques of receiving and storing fresh, frozen, refrigerated and staple goods.
10. Explain proper receiving and storing of cleaning supplies, chemicals and non-food products.
11. Conduct yield and quality tests on canned, fresh, frozen and prepared food products.
12. Conduct yield and cost comparison tests on fabricated products.
13. Inventory food and non-food items on hand.
14. Explain the procedures for rotation of stock and for costing and evaluating.
15. Describe proper procedures of issuing product according to requisition.
16. Describe current computerized systems for purchasing and inventory control.

### **Supervisory Management**

Purpose: To prepare for the transition from employee to supervision, to evaluate styles of leadership and develop skills in human relations management.

Competencies: Student will be able to --

1. Describe the process of effective management through communication skills.
2. Describe leadership styles and analyze when each is most appropriate.
3. Describe the supervisor's role in decision-making, problem solving and delegation of duties.
4. Develop written examples of job descriptions with job specifications.
5. Perform mock interviews, analyze results.
6. Describe procedures for employee orientation.
7. Analyze various training methods; develop an effective employee training program to include follow-up and cross training.
8. Analyze types and methods of employee evaluation.
9. Discuss necessity of change and the process of effective change.
10. Evaluate methods of conflict resolution and grievance procedures.
11. Describe procedure to progressive discipline.
12. Discuss techniques for motivating employees.
13. Analyze ways of dealing with stress in the workplace.
14. Discuss time management and other organizational management techniques.
15. Outline current federal and state employment law

### **Advanced Baking, Pastry and Confections**

Competencies: Student will be able to—

1. Define and describe the various types of chocolate
2. Temper chocolate
3. Prepare chocolate confections and chocolate display pieces
4. Evaluate the quality of chocolate, chocolate confections and chocolate display pieces

5. Develop advanced decorating and finishing techniques for cakes
6. Evaluate the quality of decorated cakes
7. Define and describe ice creams, sorbet, and other frozen desserts
8. Discuss the methods of preparation of ice creams, sorbets, and other frozen desserts
9. Prepare a variety of ice creams, sorbets, and other frozen desserts
10. Evaluate the quality of prepared ice creams, sorbets, and other frozen desserts
11. Define and describe hot and cold soufflés
12. Discuss the methods of preparation of hot and cold soufflés
13. Prepare hot and cold soufflés
14. Evaluate the quality of prepared hot and cold soufflés
15. Define and describe marzipan
16. Discuss the method of preparation for marzipan
17. Prepare marzipan and use it in the decoration of cakes, making of confections, or modeling of fruits or figurines.
18. Evaluate the quality of prepared marzipan items
19. Define and describe various types of candies
20. Discuss the method of preparation of various types of candies
21. Prepare various types of candies
22. Evaluate the quality of various types of prepared candies
23. Discuss methods of preparation for cooking sugar and isomalt that is to be used for candies or sugar display pieces
24. Cook sugar and isomalt for basic sugar display work
25. Prepare sugar and/or isomalt display pieces
26. Evaluate the quality of cooked sugar and isomalt and prepared sugar display pieces
27. Define and describe pastillage and royal icing
28. Discuss the methods of preparation for pastillage and royal icing
29. Prepare pastillage and royal icing
30. Prepare display pieces using pastillage and royal icing
31. Evaluate the quality of pastillage, royal icing and prepared display pieces

### **Recommended Text**

#### **Recommended texts from the 2009 Apprenticeship Log Books (Cook and Pastry Cook):**

While the National Apprenticeship Committee no longer requires a specific text book to be utilized for the apprenticeship program, we have provided a list of suggested reference materials to help make your program successful:

*Culinary Fundamentals*, ACF: Prentice Hall

*Baking Fundamentals*, ACF: Prentice Hall

*Supervision in the Hospitality Industry: Applied Human Resources, 5th Ed.*, Miller, Walker, Drummond: John Wiley & Sons

*Nutrition for Foodservice and Culinary Professionals, 6th Ed.*, Drummond, Brefer: John Wiley & Sons

*Servsafe® Essentials, 5th Ed.*: Prentice Hall

*The Professional Pastry Chef: Fundamentals of Baking Pastry, 4th Ed.*, Friberg: John Wiley & Sons

*Escoffier: The Complete Guide to the Art of Modern Cookery, 2002*, Cracknell, Kaufmann: John Wiley & Sons

*On Cooking: A Textbook of Culinary Fundamentals, 4th Ed.*, Labensky, Hause: Prentice Hall



*On Baking: A Textbook of Baking and Pastry Fundamentals, 2nd Ed.*, Labensky, Martel, Van Damme, Sierra: Prentice Hall  
*Professional Baking, 65h Ed.*, Gisslen: John Wiley and Sons  
*Advanced Bread and Pastry, 1<sup>st</sup> Ed.*, Michael Suas: Delmar Cengage  
*How to Bake Bread, 1<sup>st</sup> Ed.*, Kalanty: Red Seal Books  
*Professional Cake Decorating*, Garrett: John Wiley and Sons  
*The Dessert Architect*, Wemiscner: Delmar Cengage  
Web site: [www.chefcertification.com](http://www.chefcertification.com)

**These texts are considered additional resources for information:**

**Introduction to Foodservice/Industry Survey**

*Introduction to the Hospitality Industry, 4<sup>th</sup> Edition*, Powers

*Introduction to Hospitality, 2<sup>nd</sup> Edition*, Walker

*Introduction to Management in the Hospitality Industry, 6<sup>th</sup> Edition*, Powers

**Sanitation**

*Essentials of Food Safety and Sanitation, 2<sup>nd</sup> Edition*, McSwane

**Business and Math Skills**

*Math Principles for Food Service Occupations, 4<sup>th</sup> Edition*, Haines

*Math Workbook for Food Service and Lodging*, Crawford

*Principles of Food Beverage and Labor Cost Controls, 6<sup>th</sup> Edition*, Dittmar

*Planning and Control for Food and Beverage Operations, 4<sup>th</sup> Edition*, Ninemeyer

**Basic and Advanced Food Preparation**

*New Professional Chef, 6<sup>th</sup> Edition*, CIA

*Professional Cooking, 4<sup>th</sup> Edition*, Gisslen

*Art and Science of Culinary Preparation*, Chesser

*Classical Cooking the Modern Way*, Paul

**Food and Beverage Service**

*Professional Table Service*, Meyer

*Dining Room and Banquet Management*, Striancse

*Waiter and Waitress Training Manual*, Dahmer

*Managing Quality Customer Service*, Martin

*The Bar and Beverage Book*, Katsigris

*Beverage Management*, Colman

*Exploring Wine*, Kolpan, Smith, Weiss

**Nutrition**

*Nutrition for the Foodservice Professional, 3<sup>rd</sup> Edition*, Drummond

*Contemporary Nutrition*, Wardlaw

*The Professional Chef's Techniques for Health Cooking, 2<sup>nd</sup> Edition*, CIA (for reference only)

**Garde Manger**

*Art of Garnishing*, Inja Nona

*The Professional Chef's Art of Garde Manger*, Sonnenschmidt

*The Professional Chef's Book of Charcuterie*, Meuller (for reference only)

*Professional Charcuterie : Sausage Making, Curing, Terrines*, Kinsella

**Menu Planning and Design**

*Menu Pricing and Strategy*, Miller

*Profitable Menu Planning*, Drysdale

## **Purchasing**

*Purchasing: Selection and Procurement in the Hospitality Industry, 4<sup>th</sup> Edition, Stefanelli*

*Purchasing for Food Service Managers, Cremer*

*Quantity Food Purchasing, 5<sup>th</sup> Edition, Kotschevar*

## **Baking**

*Professional Pastry Chef, Friberg*

*How to Bake, Malgieri*

*Understanding Baking, Amendola*

*The Baker's Manual, Amendola*

## **Supervisory Management**

*Supervision in the Hospitality Industry, Miller*

*The World of Culinary Supervision, Training and Management, 2<sup>nd</sup> Edition, Cullen*

## **Educational Institution**

There are several options available for apprentices to utilize in completing their related instruction requirements. Many choose to complete their training at a post secondary learning institution. Others are given this instruction by a qualified in-house instructor at the apprentice's place of employment. Others still complete their instruction through online courses.

If an apprentice is attending a postsecondary institution, that institution must be accredited by the recognized regional or national accrediting agency in its area. This ensures that the institution has met the minimum standards for providing a quality learning environment. This should not be confused with ACFEF accreditation from the Accrediting Commission of the ACFEF. ACFEF Accreditation is for culinary art programs, not the institution.

## **Classes**

Generally, apprentice classes at a supporting post-secondary institution are comparable to the education that an individual would receive by attending school full-time in a culinary arts program. The same subject matter will be covered and the same skills learned. The difference lies in the organization of schedule. This is due to the apprentice also being employed full time during this learning experience.

## **Physical Facilities**

The supporting educational facility must be equipped with the physical plant which will allow for the teaching of all the required knowledge and competencies (educational objectives). This will include lecture rooms and a professional kitchen set-up which has separate work stations for one to four apprentices.

This will not always be the case, especially for an apprenticeship program which is being established in an educational institution with no existing hospitality program. The lack of a kitchen laboratory should not prohibit the establishment of an apprenticeship program. Options should be considered, such as using a nearby high school home economics laboratory, restaurant, club, or any other adjacent facility which will contribute its kitchen for a few hours a week.

The layout, design and placement of equipment in the instructional areas should mirror a professional working kitchen. This provides students with real life professional experience to

augment their working experiences. Facilities should ideally include all of those working stations listed in the three-year rotation sequence outlined in the apprenticeship Training Log.

Following are five critical areas of concern in determining kitchen layout and design:

1. Safety -- all standard safety features: ventilated hood system, exhaust system, fire extinguisher system, skid-proof flooring, etc. that one would find in a commercial kitchen must be in place
2. Production kitchen -- this must contain areas for hot food production, the hot line, and cold food production, the pantry.
3. Refrigeration -- there has to be enough refrigerator and freezer space to hold the food items used in production.
4. Baking kitchen -- there are special ovens, mixers, tables, and other pieces of equipment that necessitate having a separate room or space for baking production.
5. Storage area -- space should be set aside for appropriate storage of food items, equipment and small wares.

The production kitchen should have commercial quality equipment which might include: combi-ovens, ovens, (convection or standard); electric or gas burning stoves (it is important that there are enough stove top places to allow the students to work); broiler; grill; steam kettle; large tilt skillet; free-standing candy cooker; work tables; small wares – hand tools, pots and pans, cutting boards, etc.; mechanical dishwasher; electric meat slicer; reach-in refrigerator; and deep fat fryer.

The baking kitchen should have commercial quality equipment which might include: proof box; work tables (important to have large wooden boards, and sometimes marble boards, which are only used for pastry); electric or gas burning stove; mixers (small/large); and oven (convection/standard).

### **Faculty**

Acquiring qualified culinary professionals to teach the related instruction courses is vital to the overall success of apprenticeship. Programs may use full-time educators and/or part-time, adjunct instructors.

### Recommended Minimum Qualifications of Faculty :

1. A.S. in Culinary Arts or graduate of an ACFEF NAC apprenticeship program (Bachelors or advanced degree in any discipline would be beneficial, although not required, except by certain postsecondary institutions.)
2. ACF Certified or certifiable at Chef de Cuisine (CCC) or higher with three to five years industry experience.
3. Meet the State Department of Education's requirements for a vocational-technical instructor in the State of registration, or be a subject matter expert, which is an individual who is recognized within an industry as having expertise in a specific occupation and

4. Have training in teaching techniques and adult learning styles, which may occur before or after the apprenticeship instructor has started to provide the related technical instruction 29.5 (4) (i) (ii)