

# Lesson 1: Introduction to Foodservice Systems

---

---

## Objectives

---

---

At the completion of this lesson, students will be able to:

1. Describe the food flow of the four basic foodservice systems.
  2. List advantages and disadvantages of the four foodservice systems.
  3. Compare and contrast the four foodservice systems.
  4. Describe situations in which each of the four foodservice systems would be most appropriate.
- 
- 

## Student Reading Assignment

---

---

*A Guide to Centralized Foodservice Systems*, Chapter 1

---

---

## Presentation Outline

---

---

Estimated time: This classroom presentation will require about 50 minutes. If instructors engage in questioning and class participation, two 50-minute class sessions would be required.

- I. Importance of knowing characteristics of different foodservice systems
  - A. Cost control
    1. Food cost
    2. Labor cost
    3. Equipment and building costs
  - B. Unique characteristics of foodservice
    1. Demand for food within a day varies around peak eating times
    2. Demand for food varies by time of year, special events, day of week
    3. Food production and service are intensive
    4. Skilled and unskilled labor are needed

5. Food is perishable, making production scheduling and inventory especially important
  6. Menus and production change daily
- II. Flow of food
  - III. Form of food purchased
  - IV. Types of foodservice systems
    - A. Conventional foodservice system
      1. Diagram of food flow
      2. Advantages
      3. Disadvantages
      4. Examples
    - B. Centralized (commissary) foodservice system
      1. Diagram of food flow
      2. Advantages
      3. Disadvantages
      4. Examples
    - C. Ready-prepared foodservice system
      1. Diagram of food flow
      2. Advantages
      3. Disadvantages
      4. Examples
    - D. Assembly-serve foodservice system
      1. Diagram of food flow
      2. Advantages
      3. Disadvantages
      4. Examples
    - E. Combination systems

---

---

## **Suggested Learning Activities**

---

---

1. Plan a field trip to operations that use the various foodservice systems. If an airport is accessible, the airline catering company would provide a great example of a centralized foodservice system. Check with managers of local restaurants, hospitals, schools, businesses, and penal institutions to determine what systems are in use in those operations. (Estimated time: 1-2 hours)
2. Have students interview managers to learn about the foodservice systems used in various operations, trying to include a diversity of types of foodservice systems. Each student could be assigned to an operation. Have students develop interview questions and discuss them in class before interviews are done to ensure that students are well prepared for the interview. Students could present results of the interviews in class. (Estimated time: 1.5 to 2 hours, depending on class discussion)

3. Invite guest speakers from different aspects of the foodservice industry to speak to the class. Consider inviting foodservice managers in various industry segments (restaurants, schools, healthcare, etc.), equipment representatives (either from a local restaurant equipment company or a manufacturers' representative), or a foodservice consultant to share experiences with students. (Estimated time: 1 hour for each guest speaker)
4. Collect articles about different types of operations from trade magazines to use as examples in classroom discussions or as readings for students. (Estimated time: 30 minutes)
5. Review and abstract the main points of research articles related to the different types of foodservice systems. Have each student read different articles and present them to the class. (Estimated time: 1 hour)
6. Students could write a paper or present information about one aspect (productivity, cost, food safety, equipment, etc.) of foodservice systems. (Estimated time: 30 minutes per student)
7. Search the Internet for information about the foodservice systems and report findings to the class. (Estimated time: 1 hour)
8. Use discussion questions in class. Divide students in the class into four groups and have each group discuss and present a question about one type of foodservice system. Suggested discussion questions:
  - What do you believe is the major advantage of a conventional (centralized, ready-prepared, or assembly-serve) foodservice system that you could use to convince administrators to support/adopt the system and why?
  - What do you believe is the major disadvantage of a conventional (centralized, ready-prepared, or assembly-serve) foodservice system that would need to be addressed if you were to adopt the system?
  - In what ways might a restaurant chain use a centralized (commissary) foodservice system? What functions could be done in a central kitchen?

(Estimated time: 1 hour)

---

---

## Examination Questions

---

---

### **Multiple Choice**

1. The foodservice system in which food is purchased all along the food processing continuum, prepared and held either hot or chilled, and served on-site is called:
  - A. conventional.
  - B. centralized.
  - C. ready-prepared.
  - D. assembly-serve.
  
2. The foodservice system in which food is purchased all along the food processing continuum, prepared and held either chilled or frozen, and served on-site is called:
  - A. conventional.
  - B. centralized.
  - C. ready-prepared.
  - D. assembly-serve.
  
3. For an assembly-serve foodservice system, where will food most likely be purchased along the food processing continuum?
  - A. none end
  - B. middle of continuum
  - C. complete end
  - D. all along the continuum
  
4. For which foodservice system would food costs likely be highest?
  - A. conventional
  - B. centralized
  - C. ready-prepared
  - D. assembly-serve

5. If it were difficult to hire an adequate number of employees or if employee wages were very high in an area, which of the following foodservice systems might be most advantageous?
- A. conventional
  - B. centralized
  - C. ready-prepared
  - D. assembly-serve

### **Matching**

Match the following foodservice systems to the statements describing them:

- A. conventional
  - B. centralized
  - C. ready-prepared
  - D. assembly-serve
1. \_\_\_\_\_ Labor costs are likely to be lowest for this foodservice system.
  2. \_\_\_\_\_ Food costs are likely to be lowest for this foodservice system.
  3. \_\_\_\_\_ Food is produced at a central location and served at satellites.
  4. \_\_\_\_\_ Equipment costs will be lowest for this system.
  5. \_\_\_\_\_ Equipment costs will be highest for this system.
  6. \_\_\_\_\_ Food is produced and held chilled or frozen until needed for service.
  7. \_\_\_\_\_ This system would only be appropriate when large numbers of individuals are served.
  8. \_\_\_\_\_ Meal service time is most critical for this foodservice system.
  9. \_\_\_\_\_ Food is purchased at the complete or nearly complete end of the food processing continuum.
  10. \_\_\_\_\_ Most food is purchased at the none or little end of the food processing continuum.

## **Discussion**

1. You are the director of a newly merged school district. With the new organization of the school district, you need to evaluate the foodservice system. You have been hearing a lot about centralizing food production at meetings and decide that you should consider that possibility for the district.
  - A. How would a centralized foodservice system compare with the conventional system that currently is in use?
  - B. What advantages of a centralized foodservice system would you use to “sell” the system to others in the school district?
  
2. You are the general manager of a small restaurant chain with six stores. As you visit the various restaurants, you observe that there are varying standards for the same menu items. You are concerned that customers will be disappointed and quit choosing your restaurants because of the inconsistent quality.
  - A. Based on discussions about foodservice systems, what solutions are available to address this problem of inconsistency?
  - B. Explain the advantages and disadvantages of making a change in the type of foodservice system used for the restaurant chain.
  
3. Describe a situation in which a conventional (or centralized, ready-prepared, or assembly-serve) foodservice system would be the best choice.

## Answers to Examination Questions

Multiple Choice: 1-A; 2-C; 3-C; 4-D; 5-D

Matching: 1-D; 2-B; 3-B; 4-D; 5-B; 6-C; 7-B; 8-A; 9-D; 10-B

### Discussion Questions

1. You are the director of a newly merged school district. With the new organization of the school district, you need to evaluate the foodservice system. You have been hearing a lot about centralizing food production at meetings and decide that you should consider that possibility for the district.
  - A. How would a centralized foodservice system compare with the conventional system that currently is in use?

<b>Factor</b>	<b>Conventional</b>	<b>Centralized</b>
<b>Production</b>	<b>On-site</b>	<b>Central or regional kitchen Food may be chilled and reheated prior to service</b>
<b>Transportation</b>	<b>None</b>	<b>To satellites</b>
<b>Equipment</b>	<b>Duplicated at each site</b>	<b>Large volume, expensive for central site</b>
<b>Purchasing</b>	<b>May be centralized or decentralized, deliveries at each site Food purchased all along food processing continuum</b>	<b>Centralized, deliveries may be done at each site for some items Food purchased mostly at the none end of food processing continuum</b>
<b>Service</b>	<b>On-site</b>	<b>At satellite sites</b>

- B. What advantages to a centralized foodservice system would you use to “sell” the system to others in the school district?

**Some advantages discussed would include: lower food cost, improved purchasing power, effective utilization of USDA commodities, ingredient control, inventory control, lower labor cost, flexibility in scheduling of food production, mechanization of preparation, consistency in food served at various schools, food safety and quality control (microbiological, aesthetic, nutritional), better utilization of production facility, flexibility in location of central kitchen, and fully equipped kitchens are not needed in each school.**

2. You are the general manager of a small restaurant chain with six stores. As you visit the various restaurants, you observe that there are varying standards for the same menu items. You are concerned that customers will be disappointed and quit choosing your restaurants because of the inconsistent quality.

- A. Based on discussions about foodservice systems, what solutions are available to address this problem of inconsistency?

**Efforts could be made to improve consistency through recipe standardization, central purchasing, training, and supervision. If it is deemed that these strategies are not enough, some centralization could be done for food production in a central kitchen.**

- B. Explain the advantages and disadvantages of making a change in the type of foodservice system used for the restaurant chain.

**The main advantages to centralizing production include quality consistency and quantity control.**

**The major disadvantages include added cost for transportation (including truck and driver) and need for transportation equipment. If an existing restaurant does not have enough capacity, a new facility may be needed. Equipment changes may be needed, especially for quick chilling of products to ensure food safety.**

3. Describe a situation in which a conventional (or centralized, ready-prepared, or assembly-serve) foodservice system would be the best choice.

**Conventional—this system would be the best choice when small quantities of food are produced and a broad menu is used. There would need to be good availability of labor, both in terms of number and skills. Cost would not be a major constraint.**

**Centralized—this system would be the best choice when large numbers of meals are required, there is limited availability of labor, and there is growth in the number of meals projected for the future. This system also would be used when there are not production facilities in some sites where food needs to be served. There are examples of this system in schools, restaurants, and the airline industry.**

**Ready-Prepared—this system is the best choice when labor is limited and food is served in only one location. This system is used most often in large hospitals.**

**Assembly-Serve—this system is the best choice when labor is very scarce and when there are not large numbers of customers to serve.**

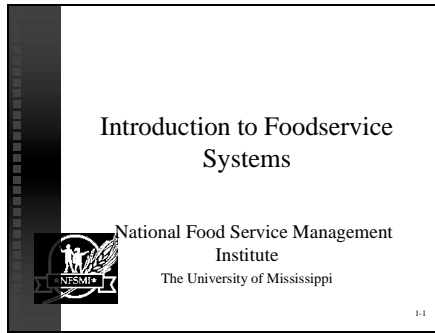


### **Examination Items by Objective**

- Objective 1 Multiple choice questions 1,2, Matching questions 3,6,8,9,10
- Objective 2 Multiple choice questions 3,4,5, Matching questions 1,2,4,5,7,  
Discussion question 1C, 2B
- Objective 3 Discussion question 1A, 2A
- Objective 4 Discussion question 3, 2A

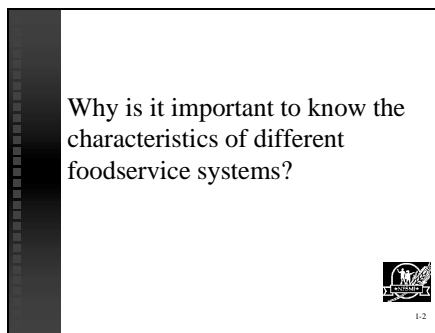
## Lesson 1 Slide Notes

Slide 1



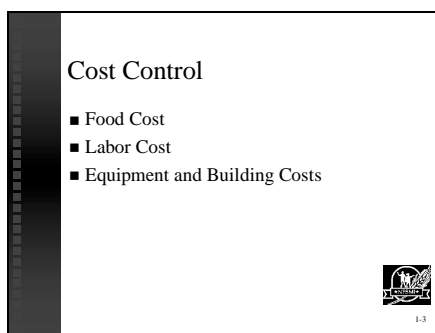
**Note:** These slides were developed to accompany Chapter 1, Introduction to Foodservice Systems. Refer to pp. 1-18.

Slide 2



Ask students this question to get discussion started. Slides 3 and 4 provide a list of possible characteristics that might be different for the various foodservice systems.

Slide 3



Cost control is a major concern of foodservice operators in many segments, especially in school foodservice. Cost is one impetus for schools to consider centralizing production. Food, labor, and equipment and building costs all vary greatly among the foodservice systems.

Slide 4



Other Factors

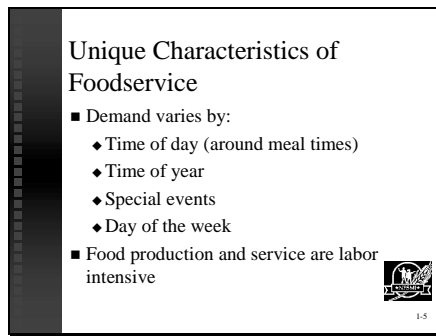
- Labor Availability
- Food Safety
- Food Quality



1-4


In addition to cost, foodservice directors are concerned with the availability of labor and the safety and quality of the food and service. These factors impact the decision that a foodservice director would make about a foodservice system.

Slide 5



Unique Characteristics of Foodservice

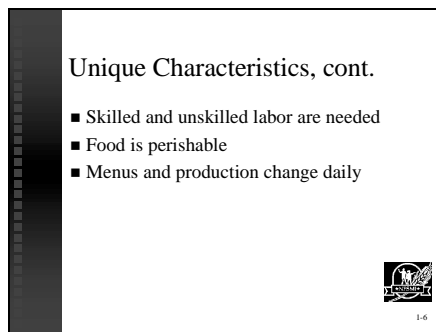
- Demand varies by:
  - ◆ Time of day (around meal times)
  - ◆ Time of year
  - ◆ Special events
  - ◆ Day of the week
- Food production and service are labor intensive



1-5


There are many unique characteristics of foodservice compared to other types of production. This uniqueness influences decisions made related to which foodservice system best meets the needs of a foodservice operation. Refer to pp. 1-2.

Slide 6



Unique Characteristics, cont.

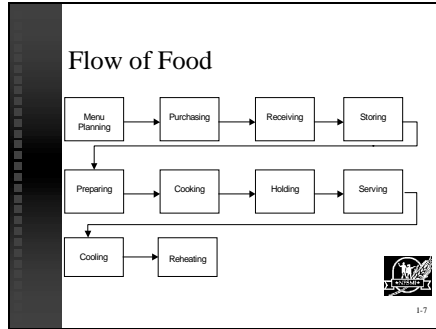
- Skilled and unskilled labor are needed
- Food is perishable
- Menus and production change daily



1-6

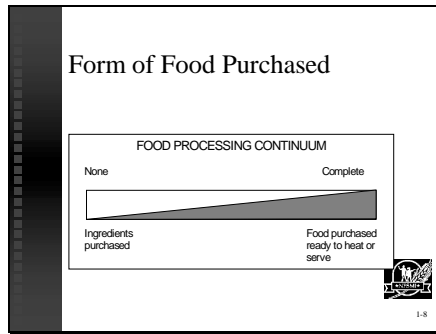
Continued from slide 5.

Slide 7



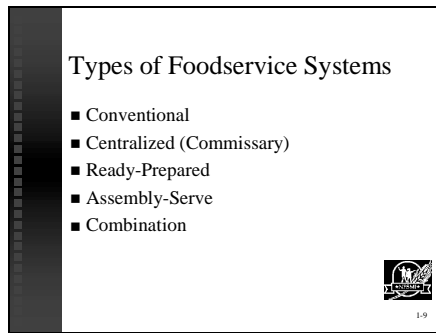
It is important to understand the flow of food through a foodservice operation in order to determine the system that will best meet your needs and to develop an effective HACCP program. This diagram presents ten possible processes/steps in the food flow. Refer to p. 2.

Slide 8



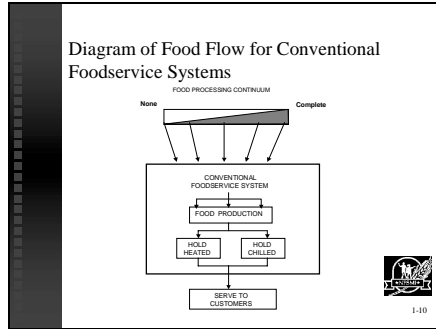
Another concept that is important to the understanding of foodservice systems is the form in which food is purchased. This diagram depicts the continuum of food processing that might be done prior to purchasing. Refer to p. 3.

Slide 9



There are four basic foodservice systems. There may be foodservice systems that combine these basic systems. Refer to pp. 4-17 for descriptions and examples of the basic foodservice systems and combination systems.

Slide 10



This diagram presents the basic food flow for a conventional foodservice system. It illustrates where food is purchased along the food processing continuum and how the food is held between production and service. Refer to p. 5.

Slide 11

- Advantages of Conventional Foodservice Systems
- High degree of food quality
  - Flexibility in menu
  - Food is served soon after production
  - Traditional standardized recipes can be used
- A small logo and the number '1-11' are located in the bottom right corner of the slide.

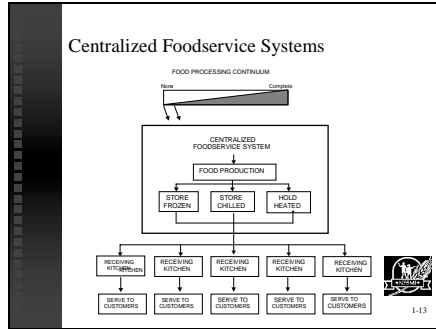
There are many potential advantages of a conventional foodservice system. Here is a list of four advantages that often are observed. Refer to pp. 5-6.

Slide 12

- Disadvantages of Conventional Foodservice Systems
- Labor intensive
  - Higher labor costs than other systems
  - Consistency may not occur
  - Food costs difficult to control
- A small logo and the number '1-12' are located in the bottom right corner of the slide.


Just as there are advantages, there are disadvantages that should be considered with a conventional foodservice system. This list presents some possible disadvantages. Refer to p. 6.

Slide 13




This diagram represents a centralized foodservice system. Note that food is purchased on the “none” or “little” end of the food processing continuum. After production, food may be stored frozen, chilled, or heated before it is transported to a receiving kitchen. Food is served at the receiving kitchen site. Refer to pp. 7-8.

Slide 14

- ### Advantages of Centralized Foodservice Systems
- Lower food and supply costs
  - Purchasing power
  - Effective utilization of USDA commodities
  - Ingredient control
  - Inventory control
- 
- 1-14

There are several advantages to centralized foodservice systems. Discuss that although there are advantages, good management decisions must be made to ensure that these advantages are realized. You may want to ask students questions such as how would purchasing change? How could ingredients be more controlled? How could inventory control be an advantage for centralized systems compared to conventional systems?

Slide 15


- ### Advantages, cont.
- Lower labor costs
  - Flexibility in scheduling food preparation
  - Mechanization of preparation
  - Quality control
    - ◆ Microbiological
    - ◆ Aesthetic
    - ◆ Nutritional
- 
- 1-15

Why would labor costs be lower for this system? Why would there be more flexibility in scheduling food production? (Refer students to the unique characteristics of foodservice. Food needs to be served soon after it is produced in conventional foodservice systems.) Refer to pp. 9-11.

Slide 16

Advantages, cont.

- Consistency
- Better utilization of production facility
- Flexibility in location
- Savings on equipment at other service sites




1-16

Continued from slide 15.

Slide 17

Disadvantages of Centralized Foodservice Systems

- High initial investment--building and equipment
- More technically-skilled employees needed
- Some jobs are monotonous
- Major impact of equipment malfunctions
- Transportation costs




1-17

As for all foodservice systems, there are disadvantages for centralized foodservice systems. Discuss these potential disadvantages. Refer to pp. 11-12.

Slide 18

Disadvantages, cont.

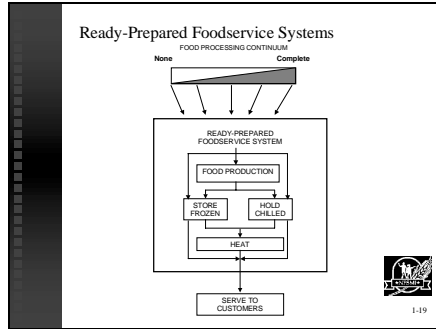
- Perceived loss of quality
- Recipe modifications/restandardization required
- Food safety can impact large numbers of customers
- Same employees don't prepare and serve food, limiting feedback from customer



1-18

Continued from slide 17.

Slide 19



This diagram of the ready-prepared foodservice system illustrates that food is produced on-site, held chilled or frozen, reheated, and served to customers. This system allows for food to be prepared at any time (separates preparation from service time) and food for multiple days can be prepared at one time. Refer to pp. 12-14.

Slide 20

- ### Advantages of Ready-Prepared Foodservice Systems
- Flexibility in scheduling food preparation
  - Labor savings
- A small logo and the number "1-20" are in the bottom right corner.

The two main advantages of ready-prepared foodservice systems are the flexibility in scheduling food production and the savings of labor. Refer to p. 14.

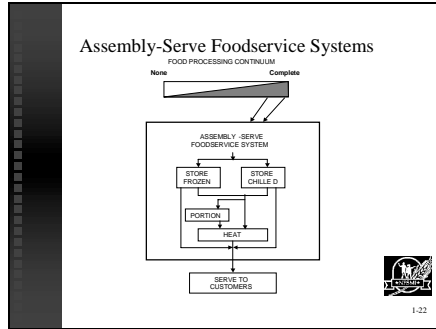
Slide 21

- ### Disadvantages of Ready-Prepared Foodservice Systems
- Limited menu variety
  - High initial capital investment for equipment
  - Perceived loss of food quality
  - Recipe modifications may be needed
  - Food safety problems affect many customers
- A small logo and the number "1-21" are in the bottom right corner.

There are several potential disadvantages of ready-prepared foodservice systems. Refer to p. 14.



Slide 22



This diagram of the assembly-serve foodservice system shows the food flow through the system. Food is purchased on the complete end of the food processing continuum and stored chilled or frozen until time for service. This system requires minimal food preparation. Refer to pp. 15-16.

Slide 23

- ### Advantages of Assembly-Serve Foodservice Systems
- Lower labor costs
  - Limited equipment needs
- A small logo and the number '1-23' are in the bottom right corner.

The two main advantages of the assembly-serve foodservice system is lower labor costs and limited equipment needs. Refer to p. 16.

Slide 24


- ### Disadvantages of Assembly-Serve Foodservice Systems
- High food cost
  - Limited menu variety
  - Availability of menu items
  - Perceived loss of quality
- A small logo and the number '1-24' are in the bottom right corner.

There are several disadvantages of assembly-serve foodservice systems. Refer to p. 16.

Slide 25

Combination Systems

- Centralized bakery, all other production in conventional foodservice systems
- Centralized warehousing
- Centralized food preparation for service on-site and at satellites



1-25

Often, foodservice operations have characteristics of more than one of the foodservice systems. Provide some examples, either from the book or from personal experience. If there are examples that students are familiar with, use them to illustrate how systems can combine features of two or more of the basic systems. Refer to pp. 16-17.