# Agriculture Food Science Course No. 18305 Credit: 1.0

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| **Student name:** |  | **Graduation Date:** |  |

Pathways and CIP Codes:

Course Description:

Directions:The following competencies are required for full approval of this course. Check the appropriate number to indicate the level of competency reached for learner evaluation.

**RATING SCALE:**

4. Exemplary Achievement: Student possesses outstanding knowledge, skills or professional attitude.

3. Proficient Achievement:Student demonstrates good knowledge, skills or professional attitude. Requires limited supervision.

2. Limited Achievement:Student demonstrates fragmented knowledge, skills or professional attitude. Requires close supervision.

1. Inadequate Achievement:Student lacks knowledge, skills or professional attitude.

0. No Instruction/Training:Student has not received instruction or training in this area.

## Benchmark 1.1: Changes & Trends

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 1.1.1 | Discuss the history and describe and explain the components (e.g., processing, distribution, byproducts) of the food products and processing industry. |  |
| 1.1.2 | Identify and explain environmental and safety concerns about the food supply. |  |
| 1.1.3 | Discuss the issues of safety and environmental concerns about foods and food processing (e.g., Genetically Modified Organisms, microorganisms, contamination, irradiation). |  |

## Benchmark 1.2: Click or tap here to enter text.

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 1.2.1 | Explain the purposes of organizations that are part of or regulate the food products and processing industry. |  |
| 1.2.2 | Explain the importance and usage of industry standards in food products and processing. |  |
| 1.2.3 | Discuss the application of industry standards in the food products and processing industry. |  |

## Benchmark 2.1: Manage Operational Procedures

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 2.1.1 | Explain the importance of developing and maintaining Sanitation Standard Operating Procedures (SSOP). |  |
| 2.1.2 | Explain the purpose of Good Manufacturing Practices (GMP). |  |
| 2.1.3 | Identify reasons for using a planned maintenance program to maintain equipment and facilities. |  |
| 2.1.4 | Develop a basic equipment and facility maintenance program. |  |

## Benchmark 2.2: Implement HACCP Procedures

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 2.2.1 | Describe contamination hazards (physical, chemical and biological) associated with food products and processing. |  |
| 2.2.2 | Identify the seven principles of HACCP. |  |
| 2.2.3 | Explain the implementation of the seven principles of HACCP. |  |

## Benchmark 2.3: Safety & Sanitation Procedures

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 2.3.1 | Explain techniques and procedures for the safe handling of food products. |  |
| 2.3.2 | Describe the importance of performing quality-assurance tests on food products. |  |
| 2.3.3 | Evaluate food product handling procedures. |  |
| 2.3.4 | Perform quality-assurance tests on food products. |  |
| 2.3.5 | Describe the effects food-borne pathogens have on food products and humans. |  |
| 2.3.6 | Explain the importance of record keeping in a food products and processing system. |  |
| 2.3.7 | Discuss documentation procedures in a food products and processing system. |  |

## Benchmark 2.4: Demonstrate Worker Safety Procedures

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 2.4.1 | Explain safety standards that must be observed in facility design and equipment use. |  |
| 2.4.2 | Outline guidelines for personnel safety in the food products and processing industry. |  |

## Benchmark 3.1: Applying Principles of Science

### Competencies

| **#** | **Description** | **RATING** |
| --- | --- | --- |
| 3.1.1 | Discuss how research and industry developments lead to improvements in the food products and processing industry. |  |
| 3.1.2 | Explain the application of chemistry and physics to food science. |  |
| 3.1.3 | Explain the Food Guide Pyramid in the relation to essential nutrients for the human diet. |  |
| 3.1.4 | Discuss common food constituents (e.g., proteins, carbohydrates, fats, vitamins, minerals). |  |
| 3.1.5 | Identify common food additives (e.g., preservatives, antioxidants, buffers, stabilizers, colors, flavors). |  |
| 3.1.6 | Describe the purpose of common food additives. |  |
| 3.1.7 | Explain the importance of food labeling to the consumer. |  |
| 3.1.8 | Explain the required components of a food label. |  |

## Benchmark 4.1: Quality Food Products

### Competencies

| **#** | **Description** | **RATING** |
| --- | --- | --- |
| 4.1.1 | Identify quality and yield grades of food products. |  |
| 4.1.2 | Discuss factors that affect quality and yield grades of food products. |  |
| 4.1.3 | Select raw food products based on yield grades, quality grades and related selection criteria. |  |
| 4.1.4 | Identify and describe accepted animal treatment and harvesting techniques. |  |
| 4.1.5 | Describe the importance of premortem and post-mortem inspections of animals for harvest. |  |

## Benchmark 4.2: Processed Food Products

### Competencies

| **#** | **Description** | **Rating** |
| --- | --- | --- |
| 4.2.1 | Identify and describe foods derived from meat, egg, poultry, fish and dairy products. |  |
| 4.2.2 | Discuss desirable qualities of processed meat, egg, poultry, fish and dairy products. |  |
| 4.2.3 | Identify and describe products derived from fruits and vegetables. |  |
| 4.2.4 | Identify and describe products derived from grains, legumes and oilseeds. |  |

## Benchmark 4.3: Sale & Distribution

### Competencies

| **#** | **Description** | **rating** |
| --- | --- | --- |
| 4.3.1 | Identify and explain common weights and measures used in the food products and processing industry. |  |
| 4.3.2 | Explain methods and materials for processing foods for sale as fresh-food products. |  |
| 4.3.3 | Identify methods of food preservation and give examples of foods preserved by each method. |  |
| 4.3.4 | Explain techniques for preparing ready-to-eat food products. |  |
| 4.3.5 | Explain materials and methods of food packaging and presentation. |  |
| 4.3.6 | Identify and explain storage conditions to preserve product quality. |  |

I certify that the student has received training in the areas indicated.

Instructor Signature:

For more information, contact:

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