Food Marketing and Research
Subject Code: 011015
Course & Unit Descriptions

Course Description:
Learners will focus on the stages of research process from research planning to gathering, analysis, and interpretation of data as it relates to food marketing management. Learners will apply knowledge of food additives, nutrition, mixes and solutions to enhance existing food products and to create new processed foods. Learners will identify and describe the impact that technological advances have on food production and availability. Cultural trends and preferences affecting product development will be examined.

Unit: Group Dynamics
Learners will examine and analyze critical thinking, decision making, and communication skills that are prevalent in the team approach in food product development within the food industry.

Benchmark: 3.7 Communication Skills
Level 1: Integrate a variety of communication techniques to gather and convey information to an individual or small group
Level 2: Conduct a business meeting using decision-making techniques

Indicators
3.7.01 Apply techniques to participate in/facilitate a group discussion
3.7.02 Apply active listening strategies
3.7.03 Develop and deliver formal and informal presentations
3.7.04 Articulate ideas and impact audience through verbal and nonverbal communication
3.7.05 Extract relevant, valid information from materials and cite sources of information
3.7.08 Develop reports and documents that organize information accurately and use formatting techniques for user friendliness
3.7.09 Select and use appropriate channel for workplace communication
3.7.10 Practice etiquette when using communication techniques

Academic Standards
English: Produce functional documents that report, organize and convey information and ideas accurately, foresee readers' problems or misunderstandings and that include formatting techniques that are user friendly. (Writing Applications C, 11-12)
Math: Use algebraic representations, such as tables, graphs, expressions, functions and inequalities, to model and solve problem situations. (Algebra D, 8-10)
Social: Evaluate the reliability and credibility of sources. (Social Studies Skills and Methods A, 9 - 10)

Benchmark: 3.8 Business Leadership
Level 1: Determine appropriate leadership style for a specific situation and apply to the situation
Level 2: Use multiple leadership concepts to change situations and enhance effectiveness in the change process

Indicators
3.8.01 Identify the purpose of leadership, the ethical dimensions of leadership and the relationship between leaders and team members
3.8.03 Identify the impact of individual differences and different situations on the practice of leadership
3.8.04 Assess strengths and weaknesses of leaders and team members and employ team-building techniques

3.8.05 Participate in and lead a small group with an interdependent task
3.8.06 Think critically and use problem-solving skills to analyze complex and diverse concepts
3.8.07 Use reasoning, judgment and imagination to create new possibilities in situations
3.8.08 Manage time with organizational tools and prioritize objectives, responsibilities and tasks
3.8.09 Apply conflict-resolution skills
3.8.10 Recognize/reward others for their efforts and contributions
3.8.11 Develop relationships with peer groups, support services, and professional organizations

Academic Standards

English: Use a variety of strategies to enhance listening comprehension. (Communication A, 8-10; Communication A, 11-12)

Math: Locate and interpret mathematical information accurately, and communicate ideas, processes and solutions in a complete and easily understood manner. (Mathematical Processes H, 8-10)

Social: Critique data and information to determine the adequacy of support for conclusions. (Social Studies Skills and Methods B, 11-12)

Unit: Market Analysis

In this unit, learners will collect and analyze market and economic trend data. Furthermore, learners will evaluate the influence of population diversity and trends of product development. Lastly, learners will compare product life cycles.

Benchmark: 3.11 Research and Analysis

Level 1: Conduct a study or survey, select descriptive statistics, create graphical displays and draw conclusions

Level 2: Conduct a problem-based study applying scientific methodology and using descriptive statistics to communicate and support predictions and conclusions

Indicators

3.11.01 Identify research problems and structure a statistical experiment, simulation or study related to the problem

3.11.02 Create a hypothesis and set the probability of acceptance based on review of valid literature

3.11.03 Establish and implement procedures for systematic collection, organization, and use of data

3.11.04 Select and apply sampling methods that appropriately represent the population to be studied

3.11.05 Create, interpret and use tabular and graphical displays and descriptive statistics to describe data

3.11.06 Compute measures of central tendency and dispersion to interpret results and draw conclusions

3.11.07 Describe the relationships among variables using correlations and draw conclusions

3.11.08 Draw conclusions based on observations and/or data analysis and disseminate information to interested parties

Academic Standards

English: Formulate open-ended research questions suitable for inquiry and investigation and adjust questions as necessary while research is conducted. (Research A, 8-10; Research A, 11-12)

Math: Use algebraic representations, such as tables, graphs, expressions, functions and model and solve problem situations. (Algebra D, 8-10)

Science: Participate in and apply the processes of scientific investigation to create models and to design, conduct, evaluate and communicate the results of these investigations. (Scientific Inquiry A, 9-10)

Unit: New Product Identification

Learners will investigate and examine the process in defining and articulating a problem area that could lead to the generation of new ideas in relation to food products.

Benchmark: 6.4 Food Product Development

Level 1: Modify an existing food product using bench-top methods and develop package design
Level 2: Create a new food prototype, using limited ingredients and processing steps, and develop package design

Indicators

6.4.01 Conduct sensory evaluation of food and food analogs
6.4.02 Identify motivations for new product production

Academic Standards

Math: Estimate, compute and solve problems involving real numbers, including ratio, proportion and percent, and explain solutions. (Number G, 8-10)
Science: Explain the ways in which the processes of technological design respond to the needs of society. (Science and Technology A, 9-10)

Unit: Product Development

In this unit, learners will develop and create a prototype in the laboratory of a new product that has a high probability of being produced commercially that includes formulation requirements and product specifications.

Benchmark: 6.3 Food Production and Processing

Level 1: Develop a process-flow diagram for a food product
Level 2: Process a food item using basic preparation techniques (e.g., mixing, grinding)

Indicators

6.3.10 Process food products through biological processing (e.g. fermenting, enzymes, microbes)
6.3.13 Process food products through mechanical processing (e.g., cut, grind, heat, homogenize, texturize, extrude, mill, mix)
6.3.14 Process food products through chemical processing (e.g. hydrating, hydrogenating and tenderizing)

Academic Standards

English: Use multiple resources to enhance comprehension of vocabulary. (Vocabulary F, 8-10; Vocabulary E, 11-12)
Math: Apply mathematical knowledge and skills routinely in other content areas and practical situations. (Mathematical Processes B, 8-10)
Science: Explain the characteristics of life as indicated by cellular processes and describe the process of cell division and development. (Life Sciences B, 9-10)

Benchmark: 6.4 Food Product Development

Level 1: Modify an existing food product using bench-top methods and develop package design
Level 2: Create a new food prototype, using limited ingredients and processing steps, and develop package design

Indicators

6.4.03 Manipulate ingredients to reach desired product goal
6.4.04 Estimate the variability in nutritional content
6.4.06 Calculate part per million of restricted ingredients
6.4.07 Develop a food product label according to industry standards

Academic Standards

Math: Estimate, compute and solve problems involving real numbers, including ratio, proportion and percent, and explain solutions. (Number G, 8-10)

Science: Explain the ways in which the processes of technological design respond to the needs of society. (Science and Technology A, 9-10)

Unit: Sensory Evaluation

Learners will conduct sensory testing evaluating taste, aroma, flavor, color, and textures of foods. Furthermore, learners will utilize techniques for measuring sensory attributes, instrumental analyses of foods, statistical analyses of sensory data and how sensory evaluation programs are utilized in the food industry.

Benchmark: 3.11 Research and Analysis

Level 1: Conduct a study or survey, select descriptive statistics, create graphical displays and draw conclusions

Level 2: Conduct a problem-based study applying scientific methodology and using descriptive statistics to communicate and support predictions and conclusions

Indicators

3.11.03 Establish and implement procedures for systematic collection, organization, and use of data

3.11.04 Select and apply sampling methods that appropriately represent the population to be studied

3.11.05 Create, interpret and use tabular and graphical displays and descriptive statistics to describe data

3.11.06 Compute measures of central tendency and dispersion to interpret results and draw conclusions

3.11.07 Describe the relationships among variables using correlations and draw conclusions

3.11.08 Draw conclusions based on observations and/or data analysis and disseminate information to interested parties

Academic Standards

English: Formulate open-ended research questions suitable for inquiry and investigation and adjust questions as necessary while research is conducted. (Research A, 8-10; Research A, 11-12)

Math: Use algebraic representations, such as tables, graphs, expressions, functions and inequalities, to model and solve problem situations. (Algebra D, 8-10)

Science: Participate in and apply the processes of scientific investigation to create models and to design, conduct, evaluate and communicate the results of these investigations. (Scientific Inquiry A, 9-10)

Benchmark: 3.6 Information Management

Level 1: Select and use a computer and computer application for a specific purpose

Level 2: Integrate software applications and use multiple software options to create a product, document or presentation

Indicators

3.6.03 Create and utilize documents using word processors, spreadsheets, databases and electronic mail

Academic Standards

English: Prepare writing for publication that follows an appropriate format and uses a variety of techniques to enhance the final product. (Writing Process F, 11-12)

Math: Use algebraic representations, such as tables, graphs, expressions, functions and inequalities, to model and solve problem situations. (Algebra D, 8-10)

Benchmark: 6.4 Food Product Development
Level 1: Modify an existing food product using bench-top methods and develop package design
Level 2: Create a new food prototype, using limited ingredients and processing steps, and develop package design

Indicators
6.4.01 Conduct sensory evaluation of food and food analogs

Academic Standards
Math: Estimate, compute and solve problems involving real numbers, including ratio, proportion and percent, and explain solutions. (Number G, 8-10)
Science: Explain the ways in which the processes of technological design respond to the needs of society. (Science and Technology A, 9-10)

Unit: Product Analysis
In this unit, learners will apply principles and applications of physical and chemical methods to the separation, characterization and quantitative analysis of food components.

Benchmark: 3.6 Information Management
Level 1: Select and use a computer and computer application for a specific purpose
Level 2: Integrate software applications and use multiple software options to create a product, document or presentation

Indicators
3.6.01 Utilize technology to maintain and monitor business records
3.6.03 Create and utilize documents using word processors, spreadsheets, databases and electronic mail

Academic Standards
English: Prepare writing for publication that follows an appropriate format and uses a variety of techniques to enhance the final product. (Writing Process F, 11-12)
Math: Use algebraic representations, such as tables, graphs, expressions, functions and inequalities, to model and solve problem situations. (Algebra D, 8-10)

Benchmark: 6.2 Quality Assurance
Level 1: Examine food production process and locate sources or potential sources of food quality deviations
Level 2: Inspect food production process, locate sources or potential sources of food quality deviations and prepare a corrective action plan

Indicators
6.2.05 Establish finished product quality attributes
6.2.06 Develop product specifications

Academic Standards
English: Produce functional documents that report, organize and convey information and ideas accurately, foresee readers' problems or misunderstandings and that include formatting techniques that are user friendly. (Writing Applications C, 11-12)
Math: Construct convincing arguments based on analysis of data and interpretation of graphs. (Data Analysis F, 8-10)

Benchmark: 6.4 Food Product Development
Level 1 Modify an existing food product using bench-top methods and develop package design

Level 2 Create a new food prototype, using limited ingredients and processing steps, and develop package design

Indicators
6.4.04 Calculate nutrient value and serving sizes in a food product
6.4.06 Calculate part per million of restricted ingredients
6.4.08 Estimate shelf life and potential changes in attributes over time
6.4.09 Develop product and raw materials gold standard

Academic Standards
Math: Estimate, compute and solve problems involving real numbers, including ratio, proportion and percent, and explain solutions. (Number G, 8-10)
Science: Explain the ways in which the processes of technological design respond to the needs of society. (Science and Technology A, 9-10)

Unit: Labeling and Packing of Product

Learners will discuss food packaging materials and their impact on food products. Furthermore, learners will apply principles and technologies of food packing in the production of a new food prototype.

Benchmark: 6.4 Food Product Development
Level 1: Modify an existing food product using bench-top methods and develop package design
Level 2: Create a new food prototype, using limited ingredients and processing steps, and develop package design

Indicators
6.4.07 Develop a food product label according to industry standards
6.4.08 Estimate shelf life and potential changes in attributes over time
6.4.09 Develop product and raw materials gold standard
6.4.10 Find new uses for low value components of the food generation process

Academic Standards
Math: Estimate, compute and solve problems involving real numbers, including ratio, proportion and percent, and explain solutions. (Number G, 8-10)
Science: Explain the ways in which the processes of technological design respond to the needs of society. (Science and Technology A, 9-10)

Unit: Quality Assurance & Food Safety

In this unit, learners will identify quality assurance measurement techniques applied to selected food processed products. Moreover, learners will discuss the rationale for establishing valid quality assurance programs including selection of samples at critical points. Lastly, learners will design a quality control plan that would be utilized in the commercial production of a new food product.

Benchmark: 6.2 Quality Assurance
Level 1: Examine food production process and locate sources or potential sources of food quality deviations
Level 2: Inspect food production process, locate sources or potential sources of food quality deviations and prepare a corrective action plan

Indicators
6.2.02 Identify and describe critical quality attributes of food product (e.g., appearance, flavor, texture)
6.2.03 Demonstrate methods of evaluating food quality (e.g., chemical, microbiological, sensory/organoleptic, physical)
6.2.04 Develop a quality check based on food quality attributes and regulation
6.2.05 Establish finished product quality attributes

6.2.06 Develop product specifications
6.2.07 Evaluate, inspect and select raw food products for manufacturing based on raw ingredient specifications

Academic Standards

English: Produce functional documents that report, organize and convey information and ideas accurately, foresee readers' problems or misunderstandings and that include formatting techniques that are user friendly. (Writing Applications C, 11-12)

Math: Construct convincing arguments based on analysis of data and interpretation of graphs. (Data Analysis F, 8-10)

Benchmark: 6.5 Food Safety and Security

Level 1: Identify and assess food safety risks for an enterprise
Level 2: Develop a food safety and security plan addressing facility needs and contamination points

Indicators

6.5.06 Conduct Good Manufacturing Practices (GMP) audit, review findings and implement corrective actions
6.5.07 Identify hazards and critical control points
6.5.08 Scientifically establish critical limits, monitor control points and apply corrective action procedures (HAACP)
6.5.10 Determine critical safety parameters for handling and storage (e.g., cold chain, temperature control, sanitation, cleanliness)
6.5.11 Conduct product hazard analysis and ingredient hazard analysis
6.5.12 Identify the key activities of a traceback/recall program

Academic Standards

English: Use multiple resources to enhance comprehension of vocabulary. (Vocabulary F, 8-10; Vocabulary E, 11-12)

Math: Construct convincing arguments based on analysis of data and interpretation of graphs. (Data Analysis F, 8-10)

Science: Explain the structure and function of ecosystems and relate how ecosystems change over time. (Life Sciences F, 9-10)

Unit: Food Law and Regulation

Learners will examine rules and regulation of various governmental agencies with regard to the processing, packaging, labeling, and marketing of food products. In addition, learners will investigate sources of communication necessary for communication with government on public food policy information.

Benchmark:3.10 Business Regulation, Law and Related Issues

Level 1: Identify and describe government regulations and societal issues related to a specific business enterprise or environmental project
Level 2: Determine the impact of government regulations and societal issues on an environmental project or the performance of a business enterprise

Indicators

3.10.02 Explain the purpose and impact of government regulations
3.10.03 Identify local, state and federal regulations relative to compliance
3.10.04 Assess business liability and describe the consequences of noncompliance
3.10.05 Adhere to business-related documentation requirements
3.10.06 Identify governmental agencies and non-governmental organizations that impact agricultural/environmental issues

Academic Standards

English: Demonstrate comprehension of print and electronic text by responding to questions (e.g., literal, inferential, evaluative and synthesizing). (Reading Process B, 8-10; Reading Process B, 11-12)

Math: Construct convincing arguments based on analysis of data and interpretation of graphs. (Data Analysis F, 8-10)

Social Studies: Evaluate the consequences of geographic and environmental changes resulting from governmental policies and human modifications to the physical environment. (Geography B, 11-12)

Unit: Marketing Strategies

In this unit, learners will develop a comprehensive marketing plan and skills in customer relations to maximize in the food industry.

Benchmark: 3.1 Marketing

Level 1: Promote a product or service using basic strategies for packaging, display and publicity
Level 2: Develop and market a product or service to maximize profits and optimize cost

Indicators

3.1.01 Select target market and consumers
3.1.02 Research products and service design(s) and determine the technical feasibility of new products
3.1.03 Conduct market research and analysis
3.1.04 Select channels of distribution
3.1.09 Select and implement a marketing option (e.g., cash sales, hedge, speculate, options, forward contract, government programs)
3.1.10 Identify and evaluate purchase options (e.g., finance options, lease, cash, rental)

Academic Standards

English: Produce functional documents that report, organize and convey information and ideas accurately, foresee readers' problems or misunderstandings and that include formatting techniques that are user friendly. (Writing Applications C, 11-12)

Math: Use algebraic representations, such as tables, graphs, expressions, functions and inequalities, to model and solve problem situations. (Algebra D, 8-10)

Social Studies: Analyze how scarcity of productive resources affects supply, demand, inflation and economic choices. (Economics A, 11-12)

Unit: Food Advertising/Promotion

In this unit, learners will apply marketing principles in promotion of new food products.

Benchmark 3.1 Marketing

Level 1: Promote a product or service using basic strategies for packaging, display and publicity
Level 2: Develop and market a product or service to maximize profits and optimize cost

Indicators

3.1.05 Set prices using supply and demand curves and commodity and non-commodity pricing
3.1.06 Identify and evaluate methods of marketing products and services
3.1.07 Promote products and services
3.1.08 Develop public relations campaigns
3.1.11 Evaluate the benefits of commodity check-off programs

Academic Standards

English: Produce functional documents that report, organize and convey information and ideas accurately, foresee readers' problems or misunderstandings and that include formatting

techniques that are user friendly. (Writing Applications C, 11-12)

Math: Use algebraic representations, such as tables, graphs, expressions, functions and inequalities, to model and solve problem situations. (Algebra D, 8-10)

Social Studies: Analyze how scarcity of productive resources affects supply, demand, inflation and economic choices. (Economics A, 11-12)

Unit: Final Product Presentation

Learners will demonstrate critical thinking, decision making, and communication skills that are prevalent in the team approach in food product development within food industry to present final product.

Benchmark: 3.6 Information Management

Level 1: Select and use a computer and computer application for a specific purpose

Level 2: Integrate software applications and use multiple software options to create a product, document or presentation

Indicators

3.6.03 Create and utilize documents using word processors, spreadsheets, databases and electronic mail

3.6.04 Conduct oral/visual presentation using presentation software

Academic Standards

English: Prepare writing for publication that follows an appropriate format and uses a variety of techniques to enhance the final product. (Writing Process F, 11-12)

Math: Use algebraic representations, such as tables, graphs, expressions, functions and inequalities, to model and solve problem situations. (Algebra D, 8-10)