# Agricultural and Environmental Systems Career Field

## Global Economics and Food Markets

**Subject Code: 010130**

**Course and Unit Descriptions**

**Course Description:**

Students will examine economic principles related to agriculture, food, and natural resources along with the operation and use of commodity futures and option markets. Students will learn economic principles with emphasis on their application to the solution of agricultural industry problems. They will examine future exchanges and commodity futures contracts, hedging strategies, as well as put and call options. Throughout the course, students will become familiar with the causes and consequences of economic growth, globalization, and development.

**Unit: Production, Storage, and Distribution of Animal and Plant Products**

Students will identify the major products from the animal and plant production industries. They will relate production practices to economic outcomes and evaluate the impact correct and incorrect processing procedures may have on the overall financial picture of the agriculture industry.

**Outcome 2.3.**

Care and Management: Apply animal care, management, and record procedures to ensure animal husbandry and welfare, including managing environmental conditions to ensure animal health and performance.

**Competency:**

2.3.1. Identify species-specific terminology (gender, age, reproductive status).

2.3.2. Identify, classify, evaluate, and select animal species or breeds for a desired outcome.

**Outcome 7.3.**

Meat Science: Identify the role of inspection, sanitation, food safety, and proper harvesting practices; the role of carcass evaluation and grading on meat quality and percent saleable products and cutting guidelines from primal to retail meat cuts.

**Competency:**

7.3.11. Calculate beef carcass value using a grid-based marketing system.

**Outcome 7.5.**

Food Product Development: Apply principles of nutrition and human behavior to create a new food prototype.

**Competency:**

7.5.8. Create a new product roll out plan (e.g., concept, bench trial, market assessment, industrial trial, consumer acceptance).

**Outcome 8.4.**

Growth and Management: Explain, manage, and manipulate plants through all stages of growth and development.

**Competency:**

8.4.10. Understand the environmental and artificial factors that influence plant germination, growth and development.

**Outcome 8.5.**

Harvesting: Describe and implement harvesting methods.

**Competency:**

8.5.5. Evaluate the impact of harvest techniques on the quality of plants and plant products.

**Outcome 8.6.**

Handling and Storage: Handle and store plants and plant products to maximize quality and longevity.

**Competency:**

8.6.4. Prepare products for sale, transportation, and storage.

8.6.6. Explain the reasons for preparing plants and plant products for distribution.

**Outcome 1.8.**

Operations Management: Plan, organize, and monitor an organization or department to maximize contribution to organizational goals and objectives.

**Competency:**

1.8.2. Select and organize resources to develop a product or a service.

1.8.4. Identify alternative actions to take when goals are not met (e.g., changing goals, changing strategies, efficiencies).

1.8.5. Use inventory and control systems to purchase materials, supplies, and equipment (e.g., Last In, First Out [LIFO]; First In, First Out [FIFO]; Just in Time [JIT]; LEAN).

1.8.6. Identify the advantages and disadvantages of carrying cost and Just-in-Time (JIT) production systems and the effects of maintaining inventory (e.g., perishable, shrinkage, insurance) on profitability.

1.8.8. Identify routine activities for maintaining business facilities and equipment.

1.8.10. Analyze how business management and environmental management systems (e.g., health, safety) contribute to continuous improvement and sustainability.

**Unit: Global Renewable and Alternative Energy**

In this unit, students will explore the world of renewable and alternative energy, its significance, various forms, and global impact. Students will gain a comprehensive understanding of renewable and alternative energy sources, their benefits, challenges, and the role they play in addressing environmental issues and sustainable development worldwide.

**Outcome 9.1**

Energy Sources: Identify energy sources according to their economic viability, sustainability, and environmental impact.

**Competency:**

9.1.2. Identify, compare, and contrast renewable energy sources and the technology used to generate energy.

9.1.3. Identify, compare, and contrast alternative and emerging energy sources and technology used to generate energy (e.g., fuel cells, hydrogen, nuclear).

**Unit: Basics of Supply and Demand**

Students will learn different properties of supply and demand as well as look at surplus and supply.

**Outcome 1.6.**

Business Literacy: Develop foundational skills and knowledge in entrepreneurship, financial literacy, and business operations.

**Competency:**

1.6.1. Identify business opportunities.

1.6.4. Identify types of businesses, ownership, and entities (i.e., individual proprietorships, partnerships, corporations, cooperatives, public, private, profit, not-for-profit).

1.6.6. Identify the target market served by the organization, the niche that the organization fills and an outlook of the industry.

1.6.7. Identify the effect of supply and demand on products and services.

1.6.8. Identify the features and benefits that make an organization’s product or service competitive.

1.6.10. Describe the impact of globalization on an enterprise or organization.

**Unit: Introduction to Agricultural Commodity Marketing**

Students will identify the different types of commodity marketing in the agricultural industry. Students will demonstrate communication skills through presentations and different forms of advertising.  Students will use technology and their applications in marketing a product. Students will identify the major commodities bought and sold on national and international levels. They will analyze price comparisons and discuss the differences in the way these commodities are marketed.

**Outcome 1.3.**

Business Ethics and Law: Analyze how professional, ethical, and legal behavior contributes to continuous improvement in organizational performance and regulatory compliance.

**Competency:**

1.3.1. Analyze how regulatory compliance (e.g., United States Department of Agriculture [USDA], Food and Drug Administration [FDA], United States Department of Interior [USDI], Ohio Livestock Care Standards, water quality standards, local water regulations, building codes) affects business operations and organizational performance.

1.3.4. Identify how federal and state consumer protection laws affect products and services.

1.3.5. Access and implement safety compliance measures (e.g., quality assurance information, safety data sheets [SDSs], product safety data sheets [PSDSs], United States Environmental Protection Agency [EPA], United States Occupational Safety and Health Administration [OSHA]) that contribute to the continuous improvement of the organization.

**Outcome 1.4.**

Knowledge Management and Information Technology: Demonstrate current and emerging strategies and technologies used to collect, analyze, record, and share information in business operations.

**Competency:**

1.4.2. Select and use software applications to locate, record, analyze, and present information (e.g., word processing, e-mail, spreadsheet, databases, presentation, Internet search engines).

1.4.3. Verify compliance with security rules, regulations, and codes (e.g., property, privacy, access, accuracy issues, client and patient record confidentiality) pertaining to technology specific to the industry pathway.

1.4.4. Use system hardware to support software applications.

1.4.5. Use information technology tools to maintain, secure, and monitor business records.

1.4.6. Use an electronic database to access and create business and technical information.

1.4.7. Use personal information management and productivity applications to optimize assigned tasks (e.g., lists, calendars, address books).

**Outcome 1.10.**

Sales and Marketing: Manage pricing, place, promotion, packaging, positioning, and public relations to improve quality customer service.

**Competency:**

1.10.1. Identify how the roles of sales, advertising, and public relations contribute to a company’s brand.

1.10.2. Determine the customer's needs and identify solutions.

1.10.3. Communicate features, benefits, and warranties of a product or service to the customer.

1.10.4. Identify the company policies and procedures for initiating product and service improvements.

1.10.5. Monitor customer expectations and determine product/service satisfaction by using measurement tools.

1.10.6. Discuss the importance of correct pricing to support a product’s or service’s positioning in the marketing mix.

1.10.7. Describe the importance and diversity of distribution channels (i.e., direct, indirect) to sell a product.

1.10.8. Use promotional techniques to maximize sales revenues (e.g., advertising, sales promotions, publicity, public relations).

1.10.9. Describe how product mix (e.g., product line, product items) maximizes sales revenues, market, share and profit margin.

1.10.10. Demonstrate sales techniques.

**Unit: Futures**

Students will define the parts of futures contracts. They will analyze the avenues in which contracts are made, as well as the benefits to both parties. Students will define hedging and look at the role futures contracts play in hedging agricultural risk. They will identify the risks of farmers by their trade and see what hedging offers entrepreneurs.

**Outcome 1.6.**

Business Literacy: Develop foundational skills and knowledge in entrepreneurship, financial literacy, and business operations.

**Competency:**

1.6.2. Assess the reality of becoming an entrepreneur, including advantages and disadvantages (e.g., risk versus reward, reasons for success and failure).

1.6.3. Explain the importance of planning your business.

**Outcome 1.7.**

Entrepreneurship/Entrepreneurs: Analyze the environment in which a business operates and the economic factors and opportunities associated with self-employment.

**Competency:**

1.7.2. Explain the role of profit as the incentive to entrepreneurs in a market economy.

1.7.3. Identify the factors that contribute to the success and failure of entrepreneurial ventures.

**Outcome 1.8.**

Operations Management: Plan, organize, and monitor an organization or department to maximize contribution to organizational goals and objectives.

**Competency:**

1.8.1. Forecast future resources and budgetary needs using financial documents (e.g., balance sheet, demand forecasting, financial ratios).

1.8.3. Analyze the performance of organizational activities and reallocate resources to achieve established goals.

1.8.7. Collect information and feedback to help assess the organization’s strategic planning and policymaking processes.

1.8.9. Develop a budget that reflects the strategies and goals of the organization.

**Outcome 1.9.**

Financial Management: Use financial tools, strategies, and systems to develop, monitor, and control the use of financial resources to ensure personal and business financial well-being.

**Competency:**

1.9.1. Create, analyze, and interpret financial documents (e.g., budgets, income statements).

1.9.2.    Identify tax obligations.

1.9.8. Identify income sources and expenditures.

**Unit: International Trade**

Students will identify the major exports and revenue of the United States agriculture industry. They will look at international imports and exports and analyze trends in the international marketing system. Students will gain an understanding of exchange rates and how cultural understanding plays a role in international commodity marketing.

**Outcome 1.5.**

Global Environment: Evaluate how beliefs, values, attitudes, and behaviors influence organizational strategies and goals.

**Competency:**

1.5.1. Describe how cultural understanding, cultural intelligence skills, and continual awareness are interdependent.

1.5.2. Describe how cultural intelligence skills influence the overall success and survival of an organization.

1.5.3. Use cultural intelligence to interact with individuals from diverse cultural settings.

1.5.4. Recognize barriers in cross-cultural relationships and implement behavioral adjustments.

1.5.5. Recognize the ways in which bias and discrimination may influence productivity and profitability.

1.5.6. Analyze work tasks for understanding and interpretation from a different cultural perspective.

1.5.7. Use intercultural communication skills to exchange ideas and create meaning.

**Outcome 1.11.**

Principles of Business Economics: Examine and employ economic principles, concepts, and policies to accomplish organizational goals and objectives.

**Competency:**

1.11.1. Identify the economic principles that guide geographic location of an industry's facilities (e.g., relative scarcity, price, quantity of products and services).

1.11.2. Identify the difference between monetary and nonmonetary incentives and explain how changes in incentives cause changes in behavior.

1.11.4. Determine how the quality, quantity and pricing of goods and services are affected by domestic and international competition in a market economy.

1.11.5. Analyze factors that affect currency and exchange rates.

1.11.7. Describe how economic performance and culture are interdependent.

1.11.9. Describe how laws and regulations influence domestic and international trade.

**Unit: Career Skills and Opportunities**

Students will learn what specific skills are necessary to success in agricultural business careers as well as what opportunities are available.

**Outcome 1.1.**

Employability Skills: Develop career awareness and employability skills (e.g., face-to-face, online) needed for gaining and maintaining employment in diverse business settings.

**Competency:**

1.1.1. Identify the knowledge, skills, and abilities necessary to succeed in careers.

1.1.2. Identify the scope of career opportunities and the requirements for education, training, certification, licensure, and experience.

1.1.3. Develop a career plan that reflects career interests, pathways, and secondary and postsecondary options.

1.1.4. Describe the role and function of professional organizations, industry associations, and organized labor and use networking techniques to develop and maintain professional relationships.

1.1.5. Develop strategies for self-promotion in the hiring process (e.g., filling out job applications, resumé writing, interviewing skills, portfolio development).

1.1.6. Explain the importance of work ethic, accountability, and responsibility and demonstrate associated behaviors in fulfilling personal, community, and workplace roles.

1.1.7. Apply problem-solving and critical-thinking skills to work-related issues when making decisions and formulating solutions.

1.1.8. Identify the correlation between emotions, behavior, and appearance and manage those to establish and maintain professionalism.

1.1.9. Give and receive constructive feedback to improve work habits.

1.1.10. Adapt personal coping skills to adjust to taxing workplace demands.

1.1.11. Recognize different cultural beliefs and practices in the workplace and demonstrate respect for them.

**Outcome 1.2.**

Leadership and Communications: Process, maintain, evaluate, and disseminate information in a business. Develop leadership and team building to promote collaboration.

**Competency:**

1.2.1. Extract relevant, valid information from materials and cite sources of information.

1.2.2. Deliver formal and informal presentations.

1.2.3. Identify and use verbal, nonverbal, and active listening skills to communicate effectively.

1.2.4. Use negotiation and conflict-resolution skills to reach solutions.

1.2.5. Communicate information (e.g., directions, ideas, vision, workplace expectations) for an intended audience and purpose.

1.2.6. Use proper grammar and expression in all aspects of communication.

1.2.7. Use problem-solving and consensus-building techniques to draw conclusions and determine next steps.

1.2.8. Identify the strengths, weaknesses, and characteristics of leadership styles that influence internal and external workplace relationships.

1.2.9. Identify advantages and disadvantages involving digital and/or electronic communications (e.g., common content for large audience, control of tone, speed, cost, lack of non-verbal cues, potential for forwarding information, longevity).

1.2.10. Use interpersonal skills to provide group leadership, promote collaboration, and work in a team.

1.2.11. Write professional correspondence, documents, job applications, and resumés.

1.2.12. Use technical writing skills to complete forms and create reports.

1.2.13. Identify stakeholders and solicit their opinions.

1.2.14. Use motivational strategies to accomplish goals.