## Agricultural and Environmental Systems Career Field

**Global Economics and Food Markets**

**Subject Code: 010130**

**Outcome & Competency 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.

**Strand 1. Business Operations/21st Century Skills**

Learners apply principles of economics, business management, marketing and employability in an entrepreneur, manager and employee role to the leadership, planning, developing and analyzing of business enterprises related to the career field.

**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.

**Competencies**

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.

**Competencies**

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.

**Outcome: 1.3. Business Ethics and Law**

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

**Competencies**

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.

**Competencies**

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: 1.5. Global Environment**

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

**Competencies**

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: 1.6. Business Literacy**

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

**Competencies**

1.6.1. Identify business opportunities.

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.

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.

**Outcome: 1.7. Entrepreneurship/Entrepreneurs**

Analyze the environment in which a business operates, and the economic factors and opportunities associated with self-employment.

**Competencies**

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.

**Competencies**

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

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

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

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.

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

policymaking processes.

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

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

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

**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.

**Competencies**

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.

**Outcome: 1.10. Sales and Marketing**

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

**Competencies**

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.

**Outcome: 1.11. Principles of Business Economics**

Examine and employ economic principles, concepts and policies to accomplish organizational goals and objectives.

**Competencies**

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.

**Strand 2. Animal Science**

Learners apply principles of animal anatomy, physiology, genetics, behavior and nutrition to the research and development, selection and reproduction, health and management of animals in domestic and natural environments.

**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.

**Competencies**

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.

**Strand 7. Food Science**

Learners apply principles of biology, chemistry and physics to the research, development, production, processing and distribution of food products meeting food safety and quality assurance standards in a system that is safe and secure.

**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.

**Competencies**

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.

**Competencies**

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

**Strand 8. Plant Science**

Learners apply principles of plant anatomy, physiology, nutrition and genetics to the research and development, selection and reproduction, planting, fertilization, health, harvesting and management of plants in a domestic and/or natural environment.

**Outcome: 8.4. Growth and Management**

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

**Competencies**

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.

**Competencies**

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.

**Competencies**

8.6.4. Prepare products for sale, transportation and storage.

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

**Strand 9. Energy**

Learners apply principles of physics, chemistry, earth sciences and mathematics to energy sources, transformations, acquisitions, applications and their impacts.

**Outcome: 9.1. Energy Sources**

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

**Competencies**

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).