

PROGRAM CONCENTRATION: Business and Computer Science
CAREER PATHWAY: Business Logistics Management
COURSE TITLE: Business Logistics Operations

Course Description: Business Logistics Operations is the second course in the Business Logistics Management program of study. Successful completion of this course along with Supply Chain Management will prepare students for the Certified Logistics Associate (CLA) exam. This course will introduce students to global supply logistics covering topics, such as the global logistics environment, the importance of planning and logistics strategies, customer service, material handling safety and operations, global supply chain operations, and quality control.

Students will be instructed through the use of lecture, guided inquiry, project-based learning, interviews with industry professionals, field trips, teamwork, simulations, and problem solving. Students should also participate in leadership development activities with a Career Technical Student Organization. This course is a pre-requisite for the Logistics Materials Management course that is required in order to complete the Certified Logistics Technician (CLT) exam.

BCS-BLO-1. Discuss the essential components of global business logistics. Students will:

- a. Define global business logistics, its objectives, and its major components.
- b. Create a diagram to strategize the major components and the level of importance of business logistics objectives.
- c. Analyze corporate strategy, proper channel strategy, and logistics strategy for the global supply chain.

Academic Standards:

MM3P5. Students will represent mathematics in multiple ways.

- a. *Create and use representations to organize, record, and communicate mathematical ideas.*
- b. *Select, apply, and translate among mathematical representations to solve problems.*
- c. *Use representations to model and interpret physical, social, and mathematical phenomena.*

BCS-BLO-2. Investigate the elements of global supply chain logistics. Students will:

- a. Define and relate the elements of the global supply chain logistics life cycle including supply chain network, supply chain logistics, global supply chain logistics, supply chain logistics life cycle, and inventory.
- b. Connect the roles and responsibilities within supply chain logistics of customer interaction, supply, warehouse and distribution centers (receiving, stocking, order

processing, and shipping), transportation, and the shared responsibility of each component.

- c. Examine the role of transportation and the four modes: truck, air, rail, and marine (ocean-going, inland, and coastal transport).
- d. Explore the trends of global supply chain logistics as it relates to the impact on company viability and profitability.
- e. Research and correlate the basic principles of cost effectiveness and productivity enhancement in global supply chain logistics.
- f. Illustrate and present the life cycle of material flowing through the global supply chain.

Academic Standards:

SSEF2. The student will give examples of how rational decision making entails comparing the marginal benefits and the marginal costs of an action.

- a. *Illustrate by means of a production possibilities curve the trade offs between two options.*
- b. *Explain that rational decisions occur when the marginal benefits of an action equal or exceed the marginal costs.*

BCS-BLO-3. Describe the global logistics environment to include facilities, security requirements, personnel, equipment, and environmental impacts. Students will:

- a. Define the global logistics environment.
- b. Identify and describe the major security requirements for the global logistics environment to include international security rules and regulations (Customs-Trade Partnerships Against Terrorism (C-PAT), Free and Secure Trade (FAST), Container Security Initiative (CSI), advanced manifest regulations, and Interconnection Security Agreement (ISA)).
- c. Outline logistics activities that impact the environment and the government regulations that affect the supply chain.
- d. Compare and contrast linear and u-shaped layout options for warehouse distribution centers and the key elements of each (space, accessibility, and throughput).
- e. List and define the specific uses for the types of docks, including flush, open, enclosed and rail sidings.
- f. Create models of various dock types, including flush, open, enclosed, and rail sidings.

Academic Standards:

MM2P2. Students will reason and evaluate mathematical arguments.

- a. *Recognize reasoning and proof as fundamental aspects of mathematics.*
- b. *Make and investigate mathematical conjectures.*
- c. *Develop and evaluate mathematical arguments and proofs.*
- d. *Select and use various types of reasoning and methods of proof.*

BCS-BLO-4. Discuss general global supply chain logistics operations to include location strategies, purchasing, inventory, and transportation. Students will:

- a. Define terms related to global supply chain logistics operations to include location strategies, purchasing, inventory, quality control, and transportation.
- b. Examine issues related to global supply chain logistics operations, including transportation, inventory, and location strategies.
- c. Categorize purchasing operations to include types of purchases, processes, policy and procedures, and integration for competitive advantage.
- d. Create a graphical representation that shows the inter-related elements of strategic sourcing.
- e. Connect the inter-related elements of strategic sourcing process to include strategic cost management, price analysis, cost analysis, Total Ownership Costs (TOC), project and process mapping, negotiation, contract management, and purchasing law and ethics.
- f. Analyze purchasing and supply chain changes and trends.

Academic Standards:

MM2P5. Students will represent mathematics in multiple ways.

- a. *Create and use representations to organize, record, and communicate mathematical ideas.*
- b. *Select, apply, and translate among mathematical representations to solve problems.*
- c. *Use representations to model and interpret physical, social, and mathematical phenomena.*

BCS-BLO-5. Demonstrate an understanding of the basic principles of global supply chain customer service processes. Students will:

- a. Define customer service and service elements, including pre-transaction elements, transaction elements, and post-transaction elements.
- b. Discuss the importance of logistics/supply chain customer service.
- c. Investigate Order Cycle Time.
- d. Discuss the sales service relationship and the purpose of services to include measuring service and service contingencies.
- e. Analyze the importance of the Logistics Information System (LIS), including various common platforms.
- f. Compare and contrast cost versus service relationships.

Academic Standards:

ELA11W1 The student produces writing that establishes an appropriate organizational structure, sets a context and engages the reader, maintains a coherent focus throughout, and signals a satisfying closure. The student

- a. *Establishes a clear, distinctive, and coherent thesis or perspective and maintains a consistent tone and focus throughout.*

- b. *Selects a focus, structure, and point of view relevant to the purpose, genre expectations, audience, length, and format requirements.*
- c. *Constructs arguable topic sentences, when applicable, to guide unified paragraphs.*
- d. *Uses precise language, action verbs, sensory details, appropriate modifiers, and active rather than passive voice.*
- e. *Writes texts of a length appropriate to address the topic or tell the story.*
- f. *Uses traditional structures for conveying information (i.e., chronological order, cause and effect, similarity and difference, and posing and answering a question).*
- g. *Supports statements and claims with anecdotes, descriptions, facts and statistics, and specific examples.*

BCS-BLO-6. Demonstrate an understanding of material handling equipment, safety, and operations. Students will:

- a. List examples of manually operated equipment to include hand trucks, platform trucks and pallet jacks.
- b. Classify types of lift trucks, such as electric pallet, narrow aisle, counterbalanced, order picker, sideloader, carton clamp, and yard lift trucks.
- c. Investigate types of loading dock equipment to include scissor lift or portable platform and dock board/plate
- d. Classify function and types of conveyors (gravity and powered conveyors, conveyor sorting systems, and vertical reciprocating conveyors (VCRs)).
- e. Critique common automation systems for material handling (automated guided vehicle (AGV), automated storage/retrieval systems (AS/RS), and shuttle cars).
- f. Discuss basic safe manual material handling practices and training.
- g. Categorize by type, function, and use of personal protective equipment for head, hand and arm, lung, feet eye/face, and ear protection
- h. Identify equipments safety features to include restraints, interior and exterior communication lights and audible alarms.
- i. Compare and contrast corrective and preventive maintenance.

Academic Standards:

SCSh2. Students will use standard safety practices for all classroom laboratory and field investigations.

- a. *Follow correct procedures for use of scientific apparatus.*
- b. *Demonstrate appropriate techniques in all laboratory situations.*
- c. *Follow correct protocol for identifying and reporting safety problems and violations.*

BCS-BLO-7. Discuss quality control improvement principles. Students will:

- a. Label and define key elements of quality (planning, control, improvement, and cost).

- b. Identify and characterize key quality control systems in a logistics environment such as Six Sigma, Total Quality Management (TQM), Lean, and the International Standards Organizations (ISO).
- c. Discuss the role of front-line workers in support of these systems.
- d. Outline procedures for documenting and reporting quality problems throughout the supply chain logistics cycle.
- e. Relate the critical role of front-line workers in supporting the types of quality audits to include internal, external, and third-party audits.
- f. Assess the use of labeling, segregating and documenting non-conforming materials.
- g. Create a plan for quality improvement recommendations that can be presented and the proper forms used to document corrective action.

Academic Standards:

ELA11W3. The student uses research and technology to support writing. The student formulates research questions and utilizes appropriate research venues (i.e., library, electronic media, personal interview, survey) to locate and incorporate evidence from primary and secondary sources.

- b. Uses supporting evidence from multiple sources to develop the main ideas within the body of a researched essay, a composition, or a technical document.*
- c. Synthesizes information from multiple sources and identifies complexities, discrepancies, and different perspectives found in a variety of media (i.e., almanacs, microfiche, news sources, in-depth field studies, speeches, journals, technical documents).*
- d. Integrates quotations and citations into a written text while maintaining the flow of ideas.*

Reading Across the Curriculum

Reading Standard Comment

After the elementary years, students engage in reading for learning. This process sweeps across all disciplinary domains, extending even to the area of personal learning. Students encounter a variety of informational as well as fictional texts, and they experience text in all genres and modes of discourse. In the study of various disciplines of learning (language arts, mathematics, science, social studies), students must learn through reading the communities of discourse of each of those disciplines. Each subject has its own specific vocabulary, and for students to excel in all subjects, they must learn the specific vocabulary of those subject areas in context.

Beginning with the middle grades years, students begin to self-select reading materials based on personal interests established through classroom learning. Students become curious about science, mathematics, history, and literature as they form contexts for those subjects related to their personal and classroom experiences. As students explore academic areas through reading, they develop favorite subjects and become confident in their verbal discourse about those subjects.

Reading across curriculum content develops both academic and personal interests in students. As students read, they develop both content and contextual vocabulary. They also build good habits for reading, researching, and learning. The Reading Across the Curriculum standard focuses on the academic and personal skills students acquire as they read in all areas of learning.

MRC. Students will enhance reading in all curriculum areas by:

- Reading in all curriculum areas
 - Read a minimum of 25 grade-level appropriate books per year from a variety of subject disciplines and participate in discussions related to curricular learning in all areas.
 - Read both informational and fictional texts in a variety of genres and modes of discourse.
 - Read technical texts related to various subject areas.
- Discussing books
 - Discuss messages and themes from books in all subject areas.
 - Respond to a variety of texts in multiple modes of discourse.
 - Relate messages and themes from one subject area to messages and themes in another area.
 - Evaluate the merit of texts in every subject discipline.
 - Examine author's purpose in writing.
 - Recognize the features of disciplinary texts.
- c. Building vocabulary knowledge
 - Demonstrate an understanding of contextual vocabulary in various subjects.
 - Use content vocabulary in writing and speaking.
 - Explore understanding of new words found in subject area texts.
- d. Establishing context
 - Explore life experiences related to subject area content.
 - Discuss in both writing and speaking how certain words are subject area related.
 - Determine strategies for finding content and contextual meaning for unknown words.

CTAE Foundation Skills

The Foundation Skills for Career, Technical and Agricultural Education (CTAE) are critical competencies that students pursuing any career pathway should exhibit to be successful. As core standards for all career pathways in all program concentrations, these skills link career, technical and agricultural education to the state's academic performance standards.

The CTAE Foundation Skills are aligned to the foundation of the U. S. Department of Education's 16 Career Clusters. Endorsed by the National Career Technical Education Foundation (NCTEF) and the National Association of State Directors of Career Technical Education Consortium (NASDCTEc), the foundation skills were developed from an analysis of all pathways in the sixteen occupational areas. These standards were identified and validated by a national advisory group of employers, secondary and postsecondary educators, labor associations, and other stakeholders. The Knowledge and Skills provide learners a broad foundation for managing lifelong learning and career transitions in a rapidly changing economy.

CTAE-FS-1 Technical Skills: Learners achieve technical content skills necessary to pursue the full range of careers for all pathways in the program concentration.

CTAE-FS-2 Academic Foundations: Learners achieve state academic standards at or above grade level.

CTAE-FS-3 Communications: Learners use various communication skills in expressing and interpreting information.

CTAE-FS-4 Problem Solving and Critical Thinking: Learners define and solve problems, and use problem-solving and improvement methods and tools.

CTAE-FS-5 Information Technology Applications: Learners use multiple information technology devices to access, organize, process, transmit, and communicate information.

CTAE-FS-6 Systems: Learners understand a variety of organizational structures and functions.

CTAE-FS-7 Safety, Health and Environment: Learners employ safety, health and environmental management systems in corporations and comprehend their importance to organizational performance and regulatory compliance.

CTAE-FS-8 Leadership and Teamwork: Learners apply leadership and teamwork skills in collaborating with others to accomplish organizational goals and objectives.

CTAE-FS-9 Ethics and Legal Responsibilities: Learners commit to work ethics, behavior, and legal responsibilities in the workplace.

CTAE-FS-10 Career Development: Learners plan and manage academic-career plans and employment relations.

CTAE-FS-11 Entrepreneurship: Learners demonstrate understanding of concepts, processes, and behaviors associated with successful entrepreneurial performance.