

SUPPLY CHAIN MANAGEMENT AND LOGISTICS

Supply Chain Management and Logistics is the study of the basic concepts included in the field of logistics and supply chain management. Topics covered include: supply chain management, customer service, transportation, purchasing, inventory, and warehouse management and introduces students to the various components of logistics. Topics will include logistics systems, order, demand inventory and warehouse management, and the control systems and automated components of logistical systems. The course also focuses on the terminology of supply chain management including the history, integration into the business plan, partnerships, profits and saving potential, sources of supply and other issues concerning supply chain management and operating environment. This course includes MSSC concepts required to earn the CLA/CLT MSSC certification.

- DOE Code: 5601
- Recommended Grade Level: Grade 11-12
- Recommended Prerequisites: Introduction to Advanced Manufacturing
- Credits: 2-3 credits per semester, maximum of 6 credits
- Counts as a Directed Elective or Elective for the General, Core 40, Core 40 with Academic Honors and Core 40 with Technical Honors diplomas
- This course is aligned with postsecondary courses for Dual Credit
 - Ivy Tech
 - LOGM 127- Introduction to Logistics
 - Vincennes University
 - PRDM 100- Supply Chain Logistics Management
 - PRDM 272-Transportation

Dual Credit

This course provides the opportunity for dual credit for students who meet postsecondary requirements for earning dual credit and successfully complete the dual credit requirements of this course.

Application of Content and Multiple Hour Offerings

Intensive laboratory applications are a component of this course and may be either school based or work based or a combination of the two. Work-based learning experiences should be in a closely related industry setting. Instructors shall have a standards-based training plan for students participating in work-based learning experiences. When a course is offered for multiple hours per semester, the amount of laboratory application or work-based learning needs to be increased proportionally.

Career and Technical Student Organizations (CTSOs)

Career and Technical Student Organizations are considered a powerful instructional tool when integrated into Career and Technical Education programs. They enhance the knowledge and skills students learn in a course by allowing a student to participate in a unique program of career and leadership development. Students should be encouraged to participate in SkillsUSA, the CTSO for this area.

Content Standards

Domain – Workplace Competency

Core Standard 1 Students apply concepts in workplace behavior and competency to specific skill

requirements within the field of logistics.

Standards

- SCML-1.1 Allocate the appropriate resources for task completion
- SCML-1.2 Demonstrate effective interpersonal skills
- SCML-1.3 Develop leadership skills
- SCML-1.4 Establish positive relationships with people from diverse backgrounds
- SCML-1.5 Research, analyze, and use data for work assignments
- SCML-1.6 Apply effective critical thinking, decision making, and problem-solving techniques
- SCML-1.7 Select and use appropriate tools and technology
- SCML-1.8 Implement quality assurance measures and safeguards
- SCML-1.9 Read and interpret written materials
- SCML-1.10 Apply written communication skills
- SCML-1.11 Demonstrate effective listening and speaking skills
- SCML-1.12 Perform appropriate mathematical calculations correctly
- SCML-1.13 Exhibit a responsible work ethic
- SCML-1.14 Demonstrate accepted standards for ethical behavior
- SCML-1.15 Apply concepts of a safe workplace

Domain – Career Development

Core Standard 2 Students establish the basis of the skills required for career opportunities in supply chain management and logistics.

Standards

- SCML-2.1 Establish a personal career goal and develop objectives for achieving the goal
- SCML-2.2 Evaluate employment and career pathway opportunities related to established career interest(s)
- SCML-2.3 Create a continuing education plan that identifies further education and training options
- SCML-2.4 Prepare for exams leading to certifications recognized by business and industry
- SCML-2.5 Develop skills needed to enter the workforce
- SCML-2.6 Evaluate resources that keep workers current in the career field
- SCML-2.7 Demonstrate skills and attitudes needed for lifelong learning
- SCML-2.8 Apply effective money management strategies

Domain – Logistics Management

Core Standard 3 Students synthesize supply chain management, operations management, and automation to conceptualize a cohesive knowledge base of logistics.

Standards

- SCML-3.1 Define logistics
- SCML-3.2 Identify the purposes and the economic importance of logistics in both individual applications and global implications
- SCML-3.3 Describe the role of logistics in modern manufacturing
- SCML-3.4 Discuss the different types of information systems and their use in logistics systems
- SCML-3.5 Distinguish the basic concepts and characteristics of different forms of transportation

- and the influence of transportation on plant and warehouse locations
- SCML-3.6 Explain the central components of a logistics system and their integration
- SCML-3.7 Analyze improvement opportunities for today's manufacturing logistics systems
- SCML-3.8 Describe information technology's contribution to logistics
- SCML-3.9 Describe logistics system controls

Domain – Supply Chain Management

Core Standard 4 Students apply concepts of supply chain management to prepare supply chain strategies and forecasting.

Standards

- SCML-4.1 Discuss global implications of supply chain management and logistics systems with respect to current technology
- SCML-4.2 Assess the effect of distribution in customer service relationships
- SCML-4.3 Define supply chain management and understand issues involved in creating and maintaining supply chain strategies
- SCML-4.4 Apply techniques and methods for effective inventory management from a lean manufacturing perspective
- SCML-4.5 Define the supply chain management concept
- SCML-4.6 Define demand management, order management and customer service
- SCML-4.7 Discuss distribution, warehousing and inventory management
- SCML-4.8 Identify common procurement and purchasing procedures

Domain – Operations Management

Core Standard 5 Students integrate operational systems, including transportation, material handling, warehouse, automation, information and logistics systems to design and simulate warehouse operations.

Standards

- SCML-5.1 Distinguish the basic concepts and characteristics of different forms of transportation and the influence of transportation on plant and warehouse locations
- SCML-5.2 Define logistics
- SCML-5.3 Apply techniques and methods for effective inventory management from a lean manufacturing perspective
- SCML-5.4 Design a warehouse operation layout considering safety, packaging, material handling, automation, information systems and lean manufacturing concepts
- SCML-5.5 Discuss global implications of supply chain management and logistics systems with respect to current technology
- SCML-5.6 Analyze improvement opportunities for today's manufacturing logistics systems
- SCML-5.8 Review transportation and transportation management concepts
- SCML-5.9 Examine the main regulations affecting the transportation industry
- SCML-5.10 Analyze the service components of freight demand.
- SCML-5.11 List the common goods and commodities carried by each of the five main modes of transportation.
- SCML-5.12 Explain the cost structures of the five main modes of transportation
- SCML-5.13 Examine the use of Intermodal transportation in supply chain management

- SCML-5.14 Explain the special considerations and industry norms of global transportation.
- SCML-5.15 Examine the factors affecting pricing decisions
- SCML-5.16 Calculate various costing values
- SCML-5.17 List the key elements on a bill of lading
- SCML 5.18 Examine how information technology is used within the transportation industry.

Domain – Automation

Core Standard 6 Students connect automation and manufacturing integration within logistics to resolve problems and improve systems controls.

Standards

- SCML-6.1 Design a warehouse operation layout considering safety, material handling, automation, information systems and lean manufacturing concepts
- SCML-6.2 Explain the central components of a logistics system and their integration
- SCML-6.3 Describe information technology's contribution to logistics