

# Logistics Technology Mississippi Curriculum Framework

**CIP 52.0203 –Logistics and Materials Management**

2022



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# ADOPTION OF NATIONAL CERTIFICATION STANDARDS

## **MSSC Certification and Recognition Program**

The Manufacturing Skill Standards Council, a 501(c)3 non-profit, is an industry-led training, assessment, and certification system focused on the core skills and knowledge needed by the nation's front-line production and material handling workers. MSSC, the only ISO Standard 17024 certified program covering entry-level to basic front line supervisor skills, is nationally recognized, federally endorsed, and has been vetted by the U.S. Departments of Labor, Education, Justice, VA, and Jobs Corps

Beginning in 2007 MSSC began ***Supply Chain Logistics Certification System Development-***

Under a USDOL grant to the North Central TX Workforce Board, MSSC begins work on a standards, training and assessment system leading to entry-level certificates (Certified Logistics Associate (CLA) ®) and mid-level certificates (Certified Logistics Technician (CLT) ®) for front-line technicians throughout all supply chain facilities: production, warehousing, distribution, and transportation.

The purpose of the Certified Logistics Technician (CLT) ® certification program is to recognize through certification, individuals who demonstrate mastery of the core competencies of material handling at the front-line (entry-level to front-line supervisor) through successful completion of the logistics certification assessments. The goal of the CLT certification program is to raise the level of performance of certified logistics technicians both to assist the individuals in finding higher-wage jobs and to help employers ensure their workforce increases the company's productivity and competitiveness.

The online logistics certificate program consists of two parts:

- Foundational-Level Certified Logistics Associate (CLA) ® Certificate
- Mid-Level Technical CLT Certification (CLT)

Before sitting for the CLT assessment, candidates must have a CLA Certificate.

# INDUSTRY JOB PROJECTION DATA

Logistics Technicians occupations require an education level of a postsecondary career and technical certificate. A summary of occupational data from the [Mississippi Occupational Employment Projections](#) is displayed below:

Standard Occupational Classification (SOC)		2016 Employment	2026 Projected Employment	Projected Employment Growth 2016-2026		Total Projected Avg. Annual Job Openings
SOC Code	Occupation			Number	Percent	
13-1081	Logisticians	770	790	20	2.6%	75

Note. The data was retrieved March 23, 2022 from the Mississippi Occupational Employment Projection Standard Occupational Classification (SOC) data.

# ARTICULATION

Articulation credit from Secondary Business Management to Postsecondary Logistics Technology will be awarded beginning upon implementation of this curriculum by the college. Courses to be articulated include Transportation and Distribution (LGT 1213) with the stipulation of passing the MS-CPAS2 according to State Board for Community and Junior Colleges (SBCJC) guidelines.

<b>Articulated Secondary Course</b>	<b>Articulated Postsecondary Course</b>
[S] Business Management Program CIP: 52.0801Management/Marketing I 52.0204Management II	LGT 1213 – Transportation and Distribution



## ASSESSMENT

Colleges should report the following for students who complete the program with a career certificate, technical certificate, or an Associate of Applied Science Degrees for technical skills attainment. To use the approved Alternate Assessment for the following programs of study, colleges should provide a Letter of Notification to the Director of Career Technical Education at the MS Community College Board. Please see the following link for further instructions: <http://www.mccb.edu/wkfEdu/CTDefault.aspx>.

<b>CIP Code</b>	<b>Program of Study</b>
52.0203	Logistics and Materials Management
<b>Level</b>	<b>Standard Assessment</b>
Accelerated /15 Hour	Certified Logistics Associate (CLA)
<b>Level</b>	<b>Standard Assessment</b>
Career	Certified Logistics Associate (CLA)
<b>Level</b>	<b>Standard Assessment</b>
Technical/AAS	Certified Logistics Technician (CLT)

## RESEARCH ABSTRACT

In the spring of 2021, the Office of Curriculum and Instruction (OCI) met with the different industry members who made up the advisory committees the Logistics and Materials program. An industry questionnaire was used to gather feedback concerning the trends and needs, both current and future, of their field. Program faculty, administrators, and industry members were consulted regarding industry workforce needs and trends. Industry advisory team members from the college involved with this program were asked to give input related to changes to be made to the curriculum framework. Specific comments related to soft skills are oral and written communication, critical thinking, and use of technology.

## REVISION HISTORY:

2012 Research and Curriculum Unit, Mississippi State University  
2022 Mississippi Community College Board

## PROGRAM DESCRIPTION

The Logistics Technology program of study is designed to prepare individuals to manage and coordinate the procurement, distribution, maintenance, and replacement of material and personnel. Logistical functions in an enterprise range from acquisitions to receiving and handling, through internal allocation of resources to the handling and delivery of a product or service.

The curriculum is designed as a stackable credential career–technical program. An Associate of Applied Science degree will be awarded at the culmination of satisfactory study of the required courses.

# SUGGESTED COURSE SEQUENCE

## Accelerated Career Pathway

Course Number	Course Name	Semester Credit Hours	SCH Breakdown		Total Contact Hours	Contact Hour Breakdown		Certification Information
			Lecture	Lab		Lecture	Lab	
LGT 1113	Fundamentals to Logistics	3	3	0	45			Certified Logistics Associate (CLA)
LGT 1313	Supply Chain Management	3	3	0	45			
	Electives	9						
<b>TOTAL</b>		<b>15</b>						

## Career Certificate

Course Number	Course Name	Semester Credit Hours	SCH Breakdown		Total Contact Hours	Contact Hour Breakdown		Certification Information
			Lecture	Lab		Lecture	Lab	
LGT 1113	Fundamentals to Logistics	3	3	0	45			Certified Logistics Associate (CLA)
LGT 1313	Supply Chain Management	3	3	0	45			
LGT 1233	Materials Management	3	3	0	45			
LGT 1213	Transportation &*Distribution	3	3	0	45			
LGT 1413	Logistic Support Analysis	3	3	0	45			
LGT 1513	Production Planning & Control	3	3	0	45			
LGT 2113	Logistics Management	3	3	0	45			
LGT 2313	Health and Safety in Logistics	3	3	0	45			
MMT 2213 OR BAD 2513	Principles of Management OR Principles of Management	3	3	0	45			
BOT 1133	Microcomputer Applications (or BAD 2533 Computer Applications in Business & Industry)	3	3	0	45			
<b>TOTAL</b>		<b>30</b>						

Technical Certificate

		SCH Breakdown			Contact Hour Breakdown		Certification Information	
Course Number	Course Name	Semester Credit Hours	Lecture	Lab	Total Contact Hours	Lecture	Lab	Certification Name
LGT 2213	Information Systems and Performance Measurement in Logistics and Transportation	3		0	45			Certified Logistics Technician (CLT)
LGT 2814	Business Logistics Capstone Project	4		0	60			
	Instructor Approved Elective	8						
<b>TOTAL</b>		<b>15</b>						

## General Education Core Courses

To receive the Associate of Applied Science degree, a student must complete all of the required coursework found in the Career Certificate option, Technical certificate option, and a minimum of 15 semester hours of General Education core. The courses in the General Education Core may be spaced out over the entire length of the program so that students complete some academic and Career Technical courses each semester or provided primarily within the last semester. Each community college will specify the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science degree at their college. The Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) Section 9 Standard 3 of the *Principles of Accreditation: Foundations for Quality Enhancement*<sup>1</sup> describes the general education core.

Section 9 Standard 3:

3. The institution requires the successful completion of a general education component at the undergraduate level that
  - a) is based on a coherent rationale.
  - b) is a substantial component of each undergraduate degree program. For degree completion in associate programs, the component constitutes a minimum of 15 semester hours of the equivalent; for baccalaureate programs, a minimum of 30 semester hours or the equivalent.
  - c) ensures breadth of knowledge. These credit hours include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics. These courses do not narrowly focus on those skills, techniques, and procedures specific to a particular occupation or profession.

<<<Add any additional general education standards as required for programmatic accreditation here and footnote below.>>>

## General Education Courses

Course Number	Course Name	Semester Credit Hours	SCH Breakdown		Total Contact Hours	Contact Hour Breakdown		Certification Information
			Lecture	Lab		Lecture	Lab	
	Humanities/Fine Arts	3						
	Social/Behavioral Sciences	3						
	Math/Science	3						
	Academic electives	6						
	<b>TOTAL</b>	<b>15</b>						

<sup>1</sup> Southern Association of Colleges and Schools Commission on Colleges. (2017). *The Principles of Accreditation: Foundations for Quality Enhancement*. Retrieved from <http://www.sacscoc.org/2017ProposedPrinc/Proposed%20Principles%20Adopted%20by%20BOT.pdf>

**Electives**

Course Number	Course Name	Semester Credit Hours	SCH Breakdown			Total Contact Hours	Contact Hour Breakdown		
			Lecture	Lab	Externship		Lecture	Lab	Externship
SSP 1003	Smart Start 101	3							
LGT 1243	Purchasing	3							
LGT 2324	Automatic Identification/Data Capture in Logistics	4							
LGT 2513	Maintenance Management	3							
LGT 281(1-3)	Special Project	(1-3)							
WBL 191(1-3), WBL 192(1-3), WBL 193(1-3), WBL 291(1-3), WBL 292(1-3), and WBL 293(1-3)	Work-Based Learning I, II, III, IV, V, and VI	(1-3)							
BOT 1413	Business Accounting	3							
BOT 1213	Professional Development	3							
BOT 2623	Principles of Management	3							
BOT 2813	Business Communications	3							
BOT 1413	Records Management	3							
DDT 1313	Principles of CAD	3							
DDT 1513	Blueprint Reading I	3							
MMT 1113	Principles of Marketing	3							
MMT 2613	International Marketing	3							
IST 1723	Programming in Python	3							
	Other instructor approved electives per local community college								

**Course Number and Name:** LGT 1113 Fundamentals to Logistics

**Description:** This course is designed to give the student a firm foundation in the systems approach to managing activities associated with forecasting, procurement, inventory management, life cycle costing, and product support.

**Hour Breakdown:**

Semester Credit Hours	Lecture	Lab	Contact Hours
3	3	0	45

**Prerequisite:** Instructor approved

**Student Learning Outcomes:**

1. Introduction and development of logistics management <sup>(CLA1, CLA 2CLT 5)</sup>
  - a. Identify deregulation policies and issues.
  - b. Discuss military logistics policies and procedures.
  - c. Evaluate competitive pressures.
2. Explore channel power and profit leverage issues.
  - a. Discuss the role of logistics in the economy.
  - b. Identify the role of logistics in an organization.
3. Explain the types of customer service activities. <sup>(CLT 3)</sup>
  - a. Discuss and explain elements of customer service.
  - b. Demonstrate procedures related to Box 2-1, Technology Box, Box 2-2, and Global Box methods of service.
4. Identify logistic information systems.
  - a. Discuss customer order cycles.
  - b. Read, comprehend, and apply sales and telemarketing information.
  - c. Read and comprehend inventory management skills and techniques.
5. Identify logistic information systems.
  - a. Discuss customer order cycles.
  - b. Read, comprehend, and apply sales and telemarketing information.Read and comprehend inventory management skills and techniques.
6. Explore managing materials flow and transportation systems. <sup>(CLT1, CLT 7)</sup>
  - a. Discuss production control procedure.
  - b. Explore forecasting, warehouse, storage, and inventory control procedures.
7. Identify purchasing and global logistics systems.
  - a. Identify purchasing techniques.
  - b. Explore global logistics systems.

**Course Number and Name:** LGT 1213 Transportation and Distribution

**Description:** This course is designed to give an overview of transportation and distribution issues. Emphasis is placed on domestic and international transportation, third-party selection, regulations, route and schedule development, and planning for shipments.

**Hour Breakdown:**

Semester Credit Hours	Lecture	Lab	Contact Hours
3	3	0	45

**Prerequisite:** Instructor approved

**Student Learning Outcomes:**

1. Introduction to the role and importance of transportation in our world. <sup>(CLA 2, CLT7)</sup>
  - a. Understand transportation, the supply chain, and the economy.
  - b. Examine modes of transportation regulations and public policy.



Course Number and Name:

LGT 1233 Materials Management

**Description:**

This course provides managerial information concerning inventory information systems, managerial tools and techniques, the warehouse environment, and distribution planning and control.

**Hour Breakdown:**

Semester Credit Hours	Lecture	Lab	Contact Hours
3	3	0	45

**Prerequisite:**

Instructor approved

**Student Learning Outcomes:**

1. Introduction to materials management
  - a. Understand how materials move in relation to the supply chain.
  - b. Discuss sales and operations systems.
  - c. Explore enterprise resource planning and making a production plan.
2. Explore master scheduling and material planning.
  - a. Explain planning, master schedules, and sales.
  - b. Identify material requirement process.
3. Identify capacity management and production activity control.
  - a. Discuss and explain elements related to capacity planning and scheduling orders.
  - b. Apply techniques to solve bottlenecks.
  - c. Explore forecasting as it relates to management, data, and seasonality.
4. Identify planning and managing systems. <sup>(CLT5)</sup>
  - a. Discuss cycle of ordering to keep up with demands.
  - b. Discuss and apply principles of inventory and warehouse management, distribution, just in c. time manufacturing, and total quality management.

**Course Number and Name:** LGT 1243 Purchasing

**Description:** This course provides information about the purchasing function. Emphasis is placed on vendor analysis, negotiations, system contracts, public purchasing, competitive bidding, and personnel.

**Hour Breakdown:**

Semester Credit Hours	Lecture	Lab	Contact Hours
3	3	0	45

**Prerequisite:** Instructor approved

**Student Learning Outcomes:**

1. Explore the role of purchasing in supply chain management.
  - a. Discuss purchasing operations.
  - b. Analyze various purchasing structures.
  - c. Describe critical supply chain elements involved in purchasing.
  - d. Summarize strategic sourcing.
  - e. Assess purchasing measurement categories.

**Course Number and Name:** LGT 1313 Supply Chain Management

**Description:** This course provides information concerning the flow of products and information among producers, suppliers, and customers. Emphasis is placed on acquiring, purchasing, and distribution of goods and services throughout the supply chain.

**Hour Breakdown:**

Semester Credit Hours	Lecture	Lab	Contact Hours
3	3	0	45

**Prerequisite:** Instructor approved

**Student Learning Outcomes:**

1. Introduction and development of supply chains. <sup>(CLA 1)</sup>
  - a. Understand supply chain operation and management.
  - b. Discuss strategic fit and scope of a supply chain.
  - c. Evaluate chain drivers and metrics.
  
2. Explore supply chain network design.
  - a. Discuss distribution networks and application to e-business.
  - b. Identify network designs and supply chains as they relate to an uncertain environment.
  
3. Explain planning demand and supply. <sup>(CLT3)</sup>
  - a. Discuss and explain elements related to demand forecasting.
  - b. Read, comprehend, and apply aggregate planning.
  - c. Explore managing predictable variability.
  
4. Identify planning and managing inventory systems. <sup>(CLT5)</sup>
  - a. Discuss cycle inventory and safety inventory.
  - b. Read, comprehend, and apply determining product availability.
  
5. Explore designing and planning transportation networks. <sup>(CLT7,8)</sup>
  - a. Discuss transportation designs and networks.
  - b. Explore cross-functional drivers.

**Course Number and Name:** LGT 1413 Logistics Support Analysis

**Description:** This course is a study of the support function and the development of analytical tools to support managerial decisions. Topics covered are maintenance planning, provisioning and support, system safety, and life cycle cost.

**Hour Breakdown:**

Semester Credit Hours	Lecture	Lab	Contact Hours
3	3	0	45

**Prerequisite:** Instructor approved

**Student Learning Outcomes:**

1. Introduction to Logistics.
  - a. Discuss the three phases of logistics.
  - b. Review the principle elements of logistics.
  - c. Identify cycles and phases of logistics.
  
2. Identify engineering principles and procedures.
  - a. Design a reliability program.
  - b. Explore reliability development, testing, and a maintainability program.
  - c. Research testability, program monitoring, and control.
  - d. Identify availability measures and predictions.
  
3. Examine internal operations. (CLT 1, CLA 7)
  - a. Discuss personnel planning and staffing.
  - b. Review support equipment.
  - c. Identify supply support systems and management.
  
4. Explore facility use, size, and design. (CLT2)
  - a. Identify packing, handling, storage, and transportability issues regarding facilities.
  - b. Identify maintenance procedures.
  - c. Apply level of repair analysis concepts.
  - d. Review current software support policies.
  - e. Construct logistic support records, plans, and contracts.

**Course Number and Name:** LGT 1513 Production Planning and Control

**Description:** This course provides managerial information regarding material requirements, capacity planning and control techniques, master production scheduling, and techniques in cost analysis.

**Hour Breakdown:**

Semester Credit Hours	Lecture	Lab	Contact Hours
3	3	0	45

**Prerequisite:** Instructor approved

**Student Learning Outcomes:**

1. Introduction to planning and controlling
  - a. Examine historical issues in planning and controlling.
  - b. Explore the evolution of the scientific method regarding planning and controlling.
  - c. Identify production and planning procedures. <sup>(DOK1)</sup>
2. Discuss productions systems.
  - a. Identify the different production systems.
  - b. Compare and contrast the productions systems.
3. Explore the elements of planning and controlling.
  - a. Discuss the functions of planning and controlling.
  - b. Illustrate how planning and controlling models are useful in making decisions.
  - c. Identify results and consequences of making decisions based on these models.
4. Review techniques for production planning.
  - a. Discuss Gantt charts, network models, product tree structures, and bills of materials.
  - b. Apply team approach strategies to application models.
5. Draw flowcharts for production planning.
  - a. Identify demand management practice concerning forecasting.
  - b. Determine short, medium, and long term capacity planning.
  - c. Develop master production schedules and strategies.

**Course Number and Name:** LGT 2113 Logistics Management

**Description:** This course is designed to help the student solve actual challenges they will encounter in the marketplace. Basic decision-making tools and concepts will be used for finding cost reduction and strategic opportunities.

**Hour Breakdown:**

Semester Credit Hours	Lecture	Lab	Contact Hours
3	3	0	45

**Prerequisite:** Instructor approved

**Student Learning Outcomes:**

1. Introduce the supply chain management concept.<sup>(CLT 2113)</sup>
  - a. Describe and discuss the supply chain management concept.
  - b. Discuss business logistics.
  - c. Explain the role of the customer in supply chain management.
  - d. Explain supply side of logistics.
  - e. Describe and discuss global logistics.
  
2. Describe and discuss inventory, warehousing, and transportation.<sup>(CLA3,5 CLT 4, 5, 8)</sup>
  - a. Examine inventory as a critical activity.
  - b. Discuss warehousing (location, racking, organization, equipment, and safety, etc.).
  - c. Examine the transportation process (receiving and shipping functions, and safety).
  
3. Examine strategic issues related to logistics.<sup>(CLT8)</sup>
  - a. Examine third-party logistics services.
  - b. Examine supply chain information systems.
  - c. Describe logistics performance measurements and metrics.
  - d. Discuss network design and facility location.
  - e. Examine financial techniques used in logistics.
  - f. Examine how to gain a competitive advantage.
  - g. Discuss challenges related to the future of logistics.

**Course Number and Name:** LGT 2513 Maintenance Management

**Description:** This course enables the student to understand the relationship between reliability and maintainability (R&M) and acquisition logistics and to evaluate the impact of R&M decisions

**Hour Breakdown:**

Semester Credit Hours	Lecture	Lab	Contact Hours
3	3	0	45

**Prerequisite:** Instructor approved

**Student Learning Outcomes:**

1. Assess the patterns of maintenance management.
  - a. Compare the patterns of maintenance management used currently and in the future.
  - b. Contrast the patterns of maintenance management used currently and in the future.
  - c. Identify the strategies to obtain a successful maintenance management system.
  - d. Discuss and describe the strategies to obtain a successful maintenance management system.
  - e. Discuss how to obtain support for these strategies.

**Course Number and Name:** LGT22213 Information systems and performance measurement in Logistics and Transportation

**Description:** This course discusses the proper management of warehousing and why it is vital to the fulfillment of customer demand and the ultimate success of a supply chain. Topics covered the application of various information systems used in warehousing and transportation as well as practical applications in warehousing management and administration.

**Hour Breakdown:**

Semester Credit Hours	Lecture	Lab	Contact Hours
3	3	0	45

**Prerequisite:** Instructor approved

**Student Learning Outcomes:**

1. Introduction to warehousing in the supply chain
  - a. Explain the role warehousing and transportation play in the overall supply chain system
  - b. Explore the distribution Center concept
  - c. Identify the differences between a warehouse and a distribution center
2. Describe the various information systems used in Warehousing and Transportation <sup>(CLT2,4, 8)</sup>
  - a. Discuss all of the information systems available to be implanted in the management of the supply chain, to include WMS, TMS YMS
  - b. Compare the systems and discuss the use of each system including the cost to implement
3. Describe the metrics used in measuring warehouse and transportation performance <sup>(CLA 4,5,6 CLT 2, 6)</sup>
  - a. Identify and describe the metrics/ performance measures used to assess efficiency and effectiveness in the warehouse environment
  - b. Describe the individual metrics used to measure employee performance
  - c. Demonstrate an in depth understanding of KPI'S (key performance indicators)
  - d. Create an example of a real life KPI , including a description of how it is created
4. Discuss the Warehousing and Transportation interface
  - a. Explain the relationship between the two functions
  - b. Describe the interdependence of the two and the issues surrounding a working relationship



**Course Number and Name:** LGT 2313 Health and Safety in Logistics

**Description:** Logistics is a complex industry that exposes employees to a whole variety of risks. These include not only accidents on the road and deaths and injuries resulting from unsafe use of forklifts, but also the consequences of poor fire safety, long-term health risks due to poor manual handling technique and problems relating to mental health. Many thousands of incidents are recorded every year. This course examines each aspect of health and safety in turn, with a focus on warehousing and transportation.

**Hour Breakdown:**

Semester Credit Hours	Lecture	Lab	Contact Hours
3	3	0	45

**Prerequisite:** Instructor approved

**Student Learning Outcomes:**

1. Review of OSHA 10 standards
  - a. Understand the OSFA standard as to how effects warehousing
  - b. Discuss what OSHA best practice are in industry
  - c. Explain major hazards that may be encountered in the workplace
2. Explore drug and alcohol issues in the warehouse
  - a. Discuss what to look for in regards to drug and alcohol abuse
  - b. Identify the options in the treatments and rehabilitation habitation of affected employees'
3. Understand the practice for reducing accidents and injuries, including fall protection, emergencies evacuation plans and the use of personal protective equipment
  - a. Identify the basic actions needed for all aspects of reducing accidents in the workplace
  - b. Demonstrate the proper use of personal protective equipment

**Course Number and Name:** LGT 2814 Business Logistics Capstone Project

**Description:** This course is designed to write a research paper specific to an approved logistics/supply chain management topic either selected by the student or assigned by the instructor.

**Hour Breakdown:**

Semester Credit Hours	Lecture	Lab	Contact Hours
3	3	0	45

**Prerequisite:** Instructor approved

**Student Learning Outcomes:**

1. An application of written, oral, and other forms of communication to the logistics industry. Write a research paper specific to an approved logistics/supply chain management topic.
  - a. Discuss and utilize proper research techniques.
  - b. Produce a research paper according to the rubric provided.
  - c. Practice in written communications (resumes, presentations, oral communications, etc.).

**Course Number and Name:** LGT 281(1-3) Special Project

**Description:** A course to provide students with an opportunity to utilize skills and knowledge gained in other Logistics Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project.

**Hour Breakdown:**

Semester Credit Hours	Lecture	Lab	Contact Hours
3	1-3	0	15-45

**Prerequisite:** Instructor approved

**Student Learning Outcomes:**

1. Develop a written plan that details the activities and projects to be completed.
  - a. Use a written plan that details the activities and projects to be completed.
  - b. Perform written occupational objectives in the special problem.
2. Assess accomplishment of objectives.
  - a. Prepare daily written assessments of accomplishment of objectives.
  - b. Present weekly written reports to the instructor of activities performed and objectives accomplished.
3. Use and follow a set of written guidelines for the special problem.
  - a. Develop and follow a set of written guidelines for the special problem.

**Course Number and Name:** LGT 291(1-6) Supervised Work Experience

**Description:** This course is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours.

**Hour Breakdown:**

Scheduled Hours	Lecture	Externship	Clock Hours
1		3	135
2		6	270
3		9	405
4		12	540
5		15	675
6		18	810

**National Assessment:**

**Prerequisite:** Completion of at least one semester of advanced coursework in Heating, Ventilation, Air-conditioning, and Refrigeration Technology

**Student Learning Outcomes:**

1. Apply technical skills needed to be a viable member of the workforce.
  - a. Prepare a description of technical skills to be developed in the supervised work experience.
  - b. Develop technical skills needed to be a viable member of the workforce.
2. Apply skills developed in other program area courses.
  - a. Perform skills developed in other program area courses.
3. Apply human relationship skills.
  - a. Use proactive human relationship skills in the supervised work experience.
4. Apply and practice positive work habits and responsibilities.
  - a. Perform assignments to develop work habits and responsibilities.
5. Work with instructor and employer to develop written occupational objectives to be accomplished.
  - a. Perform written occupational objectives in the supervised work experience.
6. Assess accomplishment of objectives.
  - a. Prepare daily written assessment of accomplishment of objectives.
  - b. Present weekly written reports of activities performed and objectives accomplished to instructor.
7. Utilize a set of written guidelines for the supervised work experience.
  - a. Develop and follow a set of written guidelines for the supervised work experience.

**Course Number and Name:** WBL 191(1-3), WBL 192(1-3), WBL 193(1-3), WBL 291(1-3), WBL 292(1-3), and WBL 293(1-3) Work-Based Learning I, II, III, IV, V, and VI

**Description:** A structured work-site learning experience in which the student, program area teacher, work-based learning coordinator, and work-site supervisor/mentor develop and implement an educational training agreement. This site is designed to integrate the student’s academic and technical skills into a work environment, and may include regular meetings and seminars with school personnel for supplemental instruction and progress reviews.

**Hour Breakdown:**

Semester Hours	Lecture	Externship	Contact Hours
1		3	45
2		6	90
3		9	135

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Apply technical skills and related academic knowledge needed to be a viable member of the workforce.
  - a. Demonstrate technical skills necessary to complete job requirements.
  - b. Demonstrate academic skills necessary to complete job requirements.
  - c. Perform tasks detailed in an educational training agreement at the work setting.
  
2. Apply general workplace skills to include positive work habits necessary for successful employment.
  - a. Demonstrate appropriate human relationship skills in the work setting to include conflict resolution, team participation, leadership, negotiation, and customer/client service.
  - b. Utilize time, materials, and resource management skills.
  - c. Use critical thinking skills such as problem solving, decision making, and reasoning.
  - d. Acquire, evaluate, organize, maintain, interpret, and communicate information.

## Appendix: A Recommended Tools and Equipment

### CAPITALIZED ITEMS

### NON-CAPITALIZED ITEMS

1. laptop (1 per student)

**It is recommended that instructors have access to the following items:**

1. Smart Board
2. Projector
3. Printer

**“Other equipment items can be added when deemed appropriate by the community college industry craft committee or by industry/business training requirements.”**

## Appendix B: Curriculum Definitions and Terms

- Course Name – A common name that will be used by all community colleges in reporting students
- Course Abbreviation – A common abbreviation that will be used by all community and junior colleges in reporting students
- Classification – Courses may be classified as the following:
  - Career Certificate Required Course – A required course for all students completing a career certificate.
  - Technical Certificate Required Course – A required course for all students completing a technical certificate.
  - Technical Elective – Elective courses that are available for colleges to offer to students.
- Description – A short narrative that includes the major purpose(s) of the course
- Prerequisites – A listing of any courses that must be taken prior to or on enrollment in the course
- Corequisites – A listing of courses that may be taken while enrolled in the course
- Student Learning Outcomes – A listing of the student outcomes (major concepts and performances) that will enable students to demonstrate mastery of these competencies

The following guidelines were used in developing the program(s) in this document and should be considered in compiling and revising course syllabi and daily lesson plans at the local level:

- The content of the courses in this document reflects approximately 75% of the time allocated to each course. The remaining 25% of each course should be developed at the local district level and may reflect the following:
  - Additional competencies and objectives within the course related to topics not found in the state framework, including activities related to specific needs of industries in the community college district
  - Activities that develop a higher level of mastery on the existing competencies and suggested objectives
  - Activities and instruction related to new technologies and concepts that were not prevalent at the time the current framework was developed or revised
  - Activities that include integration of academic and career–technical skills and course work, school-to-work transition activities, and articulation of secondary and postsecondary career–technical programs
  - Individualized learning activities, including work-site learning activities, to better prepare individuals in the courses for their chosen occupational areas
- Sequencing of the course within a program is left to the discretion of the local college. Naturally, foundation courses related to topics such as safety, tool and equipment usage, and other fundamental skills should be taught first. Other courses related to specific skill areas and related academics, however, may be sequenced to take advantage of seasonal and climatic conditions, resources located outside of the school, and other factors. Programs that offer an Associate of Applied Science Degree must include all of the required Career Certificate courses, Technical Certificate courses **AND** a minimum of 15 semester hours of General Education Core Courses. The courses in the General Education Core may be spaced out over the entire length of the program so that

students complete some academic and Career Technical courses each semester. Each community college specifies the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science Degree at their college.

- In order to provide flexibility within the districts, individual courses within a framework may be customized by doing the following:
  - Adding new student learning outcomes to complement the existing competencies and suggested objectives in the program framework
  - Revising or extending the student learning outcomes
  - Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (after informing the Mississippi Community College Board [MCCB] of the change)



## Appendix C: Course Crosswalk

<b>Course Crosswalk</b> <b>Logistics Technology</b> CIP 52.0203 – Logistics Technology					
<i>Note: Courses that have been added or changed in the 2022 curriculum are highlighted.</i>					
Existing			Revised		
2012 MS Curriculum Framework			2022 MS Curriculum Framework		
Course Number	Course Title	Hours	Course Number	Course Title	Hours
LGT 1113	Fundamentals to Logistics	3	LGT 1113	Fundamentals to Logistics	3
LGT 1313	Supply Chain Management	3	LGT 1313	Supply Chain Management	3
LGT 1233	Materials Management	3	LGT 1233	Materials Management	3
LGT 1213	Transportation &*Distribution	3	LGT 1213	Transportation &*Distribution	3
LGT 1413	Logistic Support Analysis	3	LGT 1413	Logistic Support Analysis	3
LGT 1513	Production Planning & Control	3	LGT 1513	Production Planning & Control	3
LGT 2113	Logistics Management	3	LGT 2113	Logistics Management	3
MMT 2213 <b>OR</b> BAD 2513	Principles of Management <b>OR</b> Principles of Management	3	MMT 2213 <b>OR</b> BAD 2513	Principles of Management <b>OR</b> Principles of Management	3
BOT 1133	Microcomputer Applications (or BAD 2533 Computer Applications in Business & Industry)	3	BOT 1133	Microcomputer Applications (or BAD 2533 Computer Applications in Business & Industry)	3
LGT 2533	Configuration Management	3	LGT 2213	Information Systems and Performance Measurement in Logistics and Transportation	3
			LGT 2313	Health and Safety in Logistics	3
LGT 2814	Business Logistics Capstone Project	4	LGT 2814	Business Logistics Capstone Project	4
			LGT 281(1-3)	Special Project	1-3
			LGT 2913	Supervised Work Experience	1-6
			WBL	WBL 191(1-3), WBL 192(1-3), WBL 193(1-3), WBL 291(1-3), WBL 292(1-3), and WBL 293(1-3) Work-Based Learning I, II, III, IV, V, and VI	1-3
			LGT 291(1-6)	Supervised Work Experience	1-6

## Appendix D: Recommended Logistics Technology Text Book List

Recommended Logistics Technology Text Book List CIP 52.0203 – Logistics Technology		
Book Title	Author (s)	ISBN
Supply Chain Management: A Logistics Perspective, 11th Edition	C. John Langley, Jr.   Robert A. Novack   Brian J. Gibson   John J. Coyle	ISBN-10: 035744213X   ISBN-13: 9780357442135
Introduction to Operations and Supply Chain Management (Subscription), 5th edition , 2019	Bozarth	01-34740602
Transportation: A Global Supply Chain Perspective, 9th Edition	Robert A. Novack; Brian Gibson; Yoshinori Suzuki; John J. Coyle	10: 1-337-40664-3 13: 978-1-337-40664-2, 2019
Supply Chain Logistics Management, 5/edition	Donald J. Bowersox, Michigan State University - East Lansing David J. Closs, Michigan State University - East Lansing M. Bixby Cooper, Michigan State University - East Lansing John C. Bowersox, Kohler Company	978-0-07-809664-8
Introduction to Materials Management, 8th Edition (Links to an external site.)	Chapman, Arnold, Gatewood & Clive	97801334203928
Supply Chain Focused Manufacturing Planning and Control, 1st Edition - W.C. Benton - Cengage Learning	W.C. Benton - Cengage Learning	978-1133586715
Contemporary Logistics 12TH EDITION	Paul R. Murphy Jr.	
Introduction to Management	Robbins	ISBN 12 -978013498803
Supply Chain Logistics Management, 5/e	Donald J. Bowersox, Michigan State University - East Lansing David J. Closs, Michigan State University - East Lansing M. Bixby Cooper, Michigan State University - East Lansing John C. Bowersox, Kohler Company	978-0-07-809664-8
The Definitive Guide to Warehousing	Scott B. Keller and Brian C. Keller	ISBN-10: 0-13-344890-8 ISBN-13: 978-0-13-344890-0
Health and Safety in Logistics	Jerry Rudd	9781789663259