

2012 Mississippi Curriculum Framework

Postsecondary Logistics Technology

(Program CIP: 52.0203 – Logistics and Materials Management)

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Acknowledgments

| | |
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Standards in this document are based on information from the following organizations:

| | |
|---|--|
| Standards and Guidelines for Logistics Technology Programs | Reprinted with permission from – 2010 The International Society of Logistics Standards for Demonstrated Logistician Program. http://www.sole.org/dlp.asp |
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Preface

Logistics Technology Research Synopsis

Articles, books, Web sites, and other materials listed at the end of each course were considered during the revision process. Logistics Management, Logistics Business Magazine, the International Society of Logistics, the International Journal of Physical Distribution & Logistics Management, and the Logistic Engineering Handbook were especially useful in providing insight into trends and issues in the field. These references are suggested for use by instructors and students during the study of the topics outlined.

Instructors from colleges throughout the state were also asked to give input on changes to be made to the curriculum framework. Changes suggested for the curriculum included updating the standards, and update the resources.

Needs of the Future Workforce

Jobs in Logistics are projected to grow faster than average in the United States, 18% and Mississippi, 23% (EMSI, 2011). Government and manufacturing will have the greatest demand for logisticians over the projection decade, 2010–2020. Job prospects will be best for those with a postsecondary degree and project management experience (US Bureau of Labor Statistics, 2011).

Logistics Technology Employment Projections and Earnings

| Region | 2010 Jobs | 2020 Jobs | Change | % Change | Openings | 2010 Median Hourly Earnings |
|----------------|-----------|-----------|--------|----------|----------|-----------------------------|
| Regional Total | 377 | 462 | 85 | 23% | 172 | \$25.96 |
| National Total | 102,252 | 120,574 | 18,322 | 18% | 41,527 | \$32.44 |

Curriculum

The following national standards were referenced in each course of the curriculum:

- CTB/McGraw-Hill LLC *Tests of Adult Basic Education, forms 9 and 10* Academic Standards
- *21st Century Skills*
- Reprinted with permission from – 2010 The International Society of Logistics Standards for Demonstrated Logistician Program

Industry and instructor comments, along with current research, were considered by the curriculum revision team during the revision process; and changes were made as needed and appropriate. Many of the skills and topics noted in the research were already included in the curriculum framework. Specific changes made to the curriculum at the January 20, 2011, curriculum revision meeting included the following:

- Competencies and objectives were reviewed to ensure accuracy and appropriateness.
- Added more technical electives so colleges would have the flexibility to cater to industry and student needs
- The reference list was updated.
- The Recommended Tools and Equipment list was updated.

Credential

Students will be awarded a credential recognized by industry - the International Society of Logistics (SOLE) requirements for the Demonstrated Logistician Program.

Professional Learning

It is suggested that instructors participate in professional learning related to the following concepts:

- How to use the program Blackboard site
- Differentiated instruction – To learn more about differentiated instruction, please go to http://www.paec.org/teacher2teacher/additional_subjects.html, and click on Differentiated Instruction. Work through this online course and review the additional resources.

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.

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

Statewide Guidelines on Articulated Credit

Eligibility

- To be eligible for articulated credit, a student must do the following:
 - Complete the articulated Secondary Career and Technical Program.
 - Score 80% or higher on the Mississippi Career Planning and Assessment System (MS CPAS) in his or her secondary program of study.
- To be awarded articulated credit, a student must do the following:
 - Complete application for articulated credit at the community or junior college.
 - Enroll in the community or junior college within 18 months of graduation.
 - Successfully complete 12 non-developmental career–technical or academic credit hours in the corresponding articulated postsecondary career–technical program of study.

How MS CPAS will be documented

- The Research and Curriculum Unit of Mississippi State University will provide the SBCJC a list of all secondary CTE students scoring at or above the 80 percentile for the articulated programs.
- The SBCJC will forward the list of students eligible for articulated credit to the colleges.

Transcripting of Articulated Credit

- Students must complete 12 non-developmental career–technical or academic credit hours in the articulated postsecondary career–technical program of study before the articulated credit is transcripted.
- No grade will be given on the transcript for articulated courses; only hours granted will be transcripted (thus resulting in no change in quality points).

Time Limit

- MS-CPAS2 scores will be accepted to demonstrate competencies for up to 18 months after high school graduation.

Cost

- No costs will be assessed on hours earned through articulated credit.

Foreword

As the world economy continues to evolve, businesses and industries must adopt new practices and processes in order to survive. Quality and cost control, work teams and participatory management, and an infusion of technology are transforming the way people work and do business. Employees are now expected to read, write, and communicate effectively; think creatively, solve problems, and make decisions; and interact with each other and the technologies in the workplace. Career–technical programs must also adopt these practices in order to provide graduates who can enter and advance in the changing work world.

The curriculum framework in this document reflects these changes in the workplace and a number of other factors that impact local career–technical programs. Federal and state legislation calls for articulation between high school and community college programs, integration of academic and career-technical skills, and the development of sequential courses of study that provide students with the optimum educational path for achieving successful employment. National skills standards, developed by industry groups and sponsored by the U.S. Department of Education and Labor, provide career and technical educators with the expectations of employers across the United States. All of these factors are reflected in the framework found in this document.

Referenced throughout the courses of the curriculum are the 21st Century Skills, which were developed by the Partnership for 21st Century Skills, a group of business and education organizations concerned about the gap between the knowledge and skills learned in school and those needed in communities and the workplace. A portion of the 21st Century Skills addresses learning skills needed in the 21st century, including information and communication skills, thinking and problem-solving skills, and interpersonal and self-directional skills. The need for these types of skills has been recognized for some time, and the 21st Century Skills are adapted in part from the 1991 report from the U.S. Secretary of Labor’s Commission on Achieving Necessary Skills (SCANS). Another important aspect of learning and working in the 21st century involves technology skills, and the International Society for Technology in Education, developer of the National Educational Technology Standards (NETS), was a strategic partner in the Partnership for 21st Century Skills.

Each postsecondary program of instruction consists of a program description and a suggested sequence of courses that focus on the development of occupational competencies. Each career–technical course in this sequence has been written using a common format, which includes the following components:

- **Course Name** – A common name that will be used by all community and junior 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–Technical core** – A required career–technical course for all students

- Area of concentration (AOC) core – A course required in an area of concentration of a cluster of programs
 - Career–Technical elective – An elective career–technical course
 - Related academic course – An academic course that provides academic skills and knowledge directly related to the program area
 - Academic core – An academic course that is required as part of the requirements for an associate’s degree
- Description – A short narrative that includes the major purpose(s) of the course and the recommended number of hours of lecture and laboratory activities to be conducted each week during a regular semester
 - 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
 - Competencies and Suggested Objectives – A listing of the competencies (major concepts and performances) and of the suggested student objectives 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 implement components of the Mississippi Tech Prep initiative, including 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 district. 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 a minimum 15-semester-credit-hour academic core. Specific courses to be taken within this core are to be determined by the local district. Minimum academic core courses are as follows:
 - 3 semester credit hours Math/Science Elective
 - 3 semester credit hours Written Communications Elective
 - 3 semester credit hours Oral Communications Elective
 - 3 semester credit hours Humanities/Fine Arts Elective
 - 3 semester credit hours Social/Behavioral Science Elective

It is recommended that courses in the academic core be spaced out over the entire length of the program so that students complete some academic and career–technical courses each semester. Each community or junior college has the discretion to select the actual courses that are required to meet this academic core requirement.

- In instances in which secondary programs are directly related to community and junior college programs, competencies and suggested objectives from the high school programs are listed as baseline competencies. These competencies and objectives reflect skills and knowledge that are directly related to the community and junior college career–technical program. In adopting the curriculum framework, each community or junior college is asked to give assurances that:
 - Students who can demonstrate mastery of the baseline competencies do not receive duplicate instruction.
 - Students who cannot demonstrate mastery of this content will be given the opportunity to do so.
- The roles of the baseline competencies are to do the following:
 - Assist community and junior college personnel in developing articulation agreements with high schools.
 - Ensure that all community and junior college courses provide a higher level of instruction than their secondary counterparts.
- The baseline competencies may be taught as special introduction courses for 3 to 6 semester hours of institutional credit that will not count toward associate degree requirements. Community and junior colleges may choose to integrate the baseline competencies into ongoing courses in lieu of offering the introduction courses or may offer the competencies through special projects or individualized instruction methods.
- Technical elective courses have been included to allow community colleges and students to customize programs to meet the needs of industries and employers in their area.

In order to provide flexibility within the districts, individual courses within a framework may be customized by doing the following:

- Adding new competencies and suggested objectives
- Revising or extending the suggested objectives for individual competencies
- Integrating baseline competencies from associated high school programs

- Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (after informing the State Board for Community and Junior Colleges [SBCJC] of the change)

In addition, the curriculum framework as a whole may be customized by doing the following:

- Resequencing courses within the suggested course sequence
- Developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (with SBCJC approval)
- Utilizing the technical elective options in many of the curricula to customize programs

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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.

Industry standards referenced are from The International Society of Logistics <http://www.sole.org/default.asp>, The Demonstrated Logistician Program, <http://www.sole.org/dlp.asp>

Students will be awarded a credential recognized by industry - the International Society of Logistics (SOLE) requirements for the Demonstrated Logistician Program.

Suggested Course Sequence*

Logistics Technology

Career Certificate Option

A Career Certificate will be awarded upon completion of the required courses for the Career Certificate option in Logistics Technology.

| | | |
|----------|---|----------------------|
| LGT 1113 | Fundamentals to Logistics | 3 sch: 3 hr lecture |
| LGT 1313 | Supply Chain Management | 3 sch: 3 hr. lecture |
| LGT 1233 | Materials Management | 3 sch: 3 hr. lecture |
| LGT 1213 | Transportation & Distribution | 3 sch: 3 hr. lecture |
| LGT 1413 | Logistic Support Analysis | 3 sch: 3 hr. lecture |
| LGT 1513 | Production Planning & Control | 3 sch: 3 hr. lecture |
| LGT 2113 | Logistics Management | 3 sch: 3 hr. lecture |
| LGT 2513 | Maintenance Management | 3 sch: 3 hr. lecture |
| MMT 2213 | Principles of Management (or BAD 2513 Principles of Management) | 3 sch: 3 hr. lecture |
| BOT 1133 | Microcomputer Applications (or BAD 2533 Computer Applications in Business & Industry) | 3 sch: 3 hr. lecture |
| | Total Semester Credit Hours for a Career Certificate | 30 sch |

Technical Certificate Option

A Technical Certificate will be awarded upon completion of all required Career Certificate courses **AND** the following required Technical Certificate courses in the Logistics Technology program.

| | | |
|----------|--|----------------------|
| | Career Certificate + | 30 sch |
| LGT 2533 | Configuration Management | 3 sch: 3 hr. lecture |
| LGT 2814 | Business Logistics Capstone Project | 4 sch: 4 hr. lecture |
| | Any instructor/departement chair-approved field-related electives | 8 credits |
| | Total Semester Credit Hours for a Technical Certificate | 45 sch |

Associate of Applied Science Degree Option

To receive the Associate of Applied Science Degree in Logistics Technology, a student must complete 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. The following 2012 SACS standard applies.

Section 2.7.3 For degree completion in associate programs, the component constitutes a minimum of 15 semester hours or the equivalent. These credit hours are to be drawn from and include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics.

A student must complete the following minimum credit requirements for the AAS Degree Option:

| | |
|---|---|
| Career Certificate | 30 credits minimum |
| Technical Certificate | 15 credits minimum |
| General Education Core Courses | 15 credits minimum |
| Total Semester Credit Hours for the Associate of Applied Science Degree | 60 credits minimum hours earned as a compilation of Career, Technical, and Academic credit hours. |

Approved Career–Technical elective courses have been included to allow community colleges and students to customize programs to meet the needs of industries and employers in their area. In order to provide flexibility within the districts, individual courses within a framework may be customized by doing the following:

- Adding new competencies and suggested objectives to complement the existing competencies and suggested objectives in the program framework.
- Revising or extending the suggested objectives for individual competencies
- 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**)

In addition, the curriculum framework as a whole may be customized by doing the following:

- Sequencing courses within the suggested course sequence to reflecting the new assessment format
- Developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (**with MCCB approval**)
- Adding courses listed in the “Approved Career and Technical Electives List” as local certificate and degree completion requirements to meet specific needs of industries and other clients in the community. The “Approved Career and Technical Electives” are currently approved in the Uniform Course Numbering Book; therefore, MCCB approval is **not** required.

APPROVED ELECTIVES
for Logistics Technology

Technical Electives

| | | |
|--|--|--------------------------|
| LGT 1243 | Purchasing | 3 sch: 3 hr. lecture |
| LGT 2324 | Automatic Identification/Data Capture in Logistics | 4 sch: 4 hr. lecture |
| LGT 292(1-3) | Special Project | 1-3 sch: 1-3 hr. lecture |
| BOT 1413 | Business Accounting | 3 sch: 3 hr. lecture |
| BOT 1213 | Professional Development | 3 sch: 3 hr. lecture |
| BOT 2623 | Principles of Management | 3 sch: 3 hr. lecture |
| BOT 2813 | Business Communications | 3 sch: 3 hr. lecture |
| BOT 1413 | Records Management | 3 sch: 3 hr. lecture |
| DDT 1313 | Principles of CAD | 3 sch: 3 hr. lecture |
| DDT 1513 | Blueprint Reading I | 3 sch: 3 hr. lecture |
| MMT 1113 | Principles of Marketing | 3 sch: 3 hr. lecture |
| MMT 2613 | International Marketing | 3 sch: 3 hr. lecture |
| Other instructor approved electives that are listed in the MCCB approved CTE Uniform Course Numbering document. | | |
| * Students who lack entry-level skills in math, English, science, and so forth will be provided related studies. | | |

Academic Electives

| | | |
|--|-------------------------------|----------------------|
| ACC 1213 | Principles of Accounting | 3 sch: 3 hr. lecture |
| ECO 2113 | Principles of Macroeconomics | 3 sch: 3 hr. lecture |
| ECO 2123 | Microeconomics | 3 sch: 3 hr. lecture |
| BAD 2323 | Business Statistics | 3 sch: 3 hr. lecture |
| BAD 2413 | Legal Environment of Business | 3 sch: 3 hr. lecture |
| LEA 1813 | Leadership Development | 3 sch: 3 hr. lecture |
| MAT 1613 | Calculus I | 3 sch: 3 hr. lecture |
| MAT 1323 | Trigonometry | 3 sch: 3 hr. lecture |
| MAT 1513 | Business Calculus I | 3 sch: 3 hr. lecture |
| MAT 2323 | Statistics | 3 sch: 3 hr. lecture |
| PHY 2424 | General Physics I | 4 sch: 4 hr. lecture |
| Other instructor approved electives that are listed in the MCCB approved CTE Uniform Course Numbering document. | | |
| * Students who lack entry-level skills in math, English, science, and so forth will be provided related studies. | | |

Logistics Technology Courses

Course Name: Fundamentals to Logistics

Course Abbreviation: LGT 1113

Classification: Career–Technical Core

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. (3 sch: 3-hr lecture)

Prerequisite: None

| Competencies and Suggested Objectives | |
|---|--|
| 1. Introduction and development of logistics management ^(DOK1, SOL1) | |
| a. Identify deregulation policies and issues. ^(DOK1) | |
| b. Discuss military logistics policies and procedures. ^(DOK1) | |
| c. Evaluate competitive pressures. ^(DOK2) | |
| d. Explore channel power and profit leverage issues. ^(DOK1) | |
| 2. Explore global box theory of logistics. ^(DOK1, SOL1) | |
| a. Discuss the role of logistics in the economy. ^(DOK1) | |
| b. Identify the role of logistics in an organization. ^(DOK1) | |
| 3. Explain the types of customer service activities. ^(DOK1, SOL1) | |
| a. Discuss and explain elements of customer service. ^(DOK1) | |
| b. Demonstrate procedures related to Box 2-1, Technology Box, Box 2-2, and Global Box methods of service. ^(DOK2) | |
| 4. Identify logistic information systems. ^(DOK1, SOL1) | |
| a. Discuss customer order cycles. ^(DOK1) | |
| b. Read, comprehend, and apply sales and telemarketing information. ^(DOK1) | |
| c. Read and comprehend inventory management skills and techniques. ^(DOK1) | |
| 5. Explore managing materials flow and transportation systems. ^(DOK1, SOL1) | |
| a. Discuss production control procedure. ^(DOK1) | |
| b. Explore forecasting, warehouse, storage, and inventory control procedures. ^(DOK1) | |
| 6. Identify purchasing and global logistics systems. ^(DOK1, SOL1) | |
| a. Identify purchasing techniques. ^(DOK1) | |
| b. Explore global logistic systems. ^(DOK1) | |

STANDARDS

Logistics Technology Standards

SOL1 System Management

SOL2 Systems Development and Design

SOL3 Acquisition and Product Support

SOL4 Distribution and Customer Support

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- M1 Addition of Whole Numbers (no regrouping, regrouping)
- M2 Subtraction of Whole Numbers (no regrouping, regrouping)
- M3 Multiplication of Whole Numbers (no regrouping, regrouping)
- M4 Division of Whole Numbers (no remainder, remainder)
- M5 Decimals (addition, subtraction, multiplication, division)
- M6 Fractions (addition, subtraction, multiplication, division)
- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations
- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
- S1 Vowel (short, long)
- S2 Consonant (variant spelling, silent letter)
- S3 Structural Unit (root, suffix)

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21st Century Skills

CSS1-21st Century Themes

- CS1 Global Awareness
 - CS2 Financial, Economic, Business, and Entrepreneurial Literacy
 - CS3 Civic Literacy
 - CS4 Health Literacy
 - CS5 Environmental Literacy
-

CSS2-Learning and Innovation Skills

- CS6 Creativity and Innovation
- CS7 Critical Thinking and Problem Solving
- CS8 Communication and Collaboration

CSS3-Information, Media and Technology Skills

- CS9 Information Literacy
- CS10 Media Literacy
- CS11 ICT Literacy

CSS4-Life and Career Skills

- CS12 Flexibility and Adaptability
- CS13 Initiative and Self-Direction
- CS14 Social and Cross-Cultural Skills
- CS15 Productivity and Accountability
- CS16 Leadership and Responsibility

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Course Name: Transportation and Distribution

Course Abbreviation: LGT 1213

Classification: Career–Technical Core

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. (3 sch: 3-hr lecture)

Prerequisite: None

| Competencies and Suggested Objectives | |
|---|--|
| 1. Introduction to the role and importance of transportation in our world. (DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Understand transportation, the supply chain, and the economy. (DOK1) | |
| b. Examine the transportation regulations and public policy. (DOK1) | |
| 2. Explore transportation providers. (DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Discuss the varieties of carriers. (DOK1) | |
| b. Review the advantages and disadvantage of the carriers. (DOK1) | |
| 3. Identify transportation management strategies. (DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Discuss shipper strategies and processes. (DOK1) | |
| b. Explore cost and pricing of the different transportation methods. (DOK2) | |
| c. Explore forecasting as it relates to management, data, and seasonality. (DOK2) | |

STANDARDS

Logistics Technology Standards

SOL1 System Management
 SOL2 Systems Development and Design
 SOL3 Acquisition and Product Support
 SOL4 Distribution and Customer Support

Related Academic Standards

R1 Interpret Graphic Information (forms, maps, reference sources)
 R2 Words in Context (same and opposite meaning)
 R3 Recall Information (details, sequence)
 R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
 R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
 M1 Addition of Whole Numbers (no regrouping, regrouping)
 M2 Subtraction of Whole Numbers (no regrouping, regrouping)
 M3 Multiplication of Whole Numbers (no regrouping, regrouping)
 M4 Division of Whole Numbers (no remainder, remainder)

- M5 Decimals (addition, subtraction, multiplication, division)
- M6 Fractions (addition, subtraction, multiplication, division)
- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations
- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
- S1 Vowel (short, long)
- S2 Consonant (variant spelling, silent letter)
- S3 Structural Unit (root, suffix)

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21st Century Skills

CSS1-21st Century Themes

- CS1 Global Awareness
- CS2 Financial, Economic, Business, and Entrepreneurial Literacy
- CS3 Civic Literacy
- CS4 Health Literacy
- CS5 Environmental Literacy

CSS2-Learning and Innovation Skills

- CS6 Creativity and Innovation
- CS7 Critical Thinking and Problem Solving
- CS8 Communication and Collaboration

CSS3-Information, Media and Technology Skills

- CS9 Information Literacy
- CS10 Media Literacy
- CS11 ICT Literacy

CSS4-Life and Career Skills

- CS12 Flexibility and Adaptability
 - CS13 Initiative and Self-Direction
 - CS14 Social and Cross-Cultural Skills
 - CS15 Productivity and Accountability
-

CS16 Leadership and Responsibility

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The International Society of Logistic. (n.d.). Retrieved December 17, 2010, from <http://www.sole.org/>

Course Name: Materials Management

Course Abbreviation: LGT 1233

Classification: Career–Technical Core

Description: This course provides managerial information concerning inventory information systems, managerial tools and techniques, the warehouse environment, and distribution planning and control. (3 sch: 3-hr lecture)

Prerequisite: None

| Competencies and Suggested Objectives | |
|--|--|
| 1. Introduction to materials management ^(DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Understand how materials move in relation to the supply chain. ^(DOK1) | |
| b. Discuss sales and operations systems. ^(DOK1) | |
| c. Explore enterprise resource planning and making a production plan. ^(DOK1) | |
| 2. Explore master scheduling and material planning. ^(DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Explain planning, master schedules, and sales. ^(DOK1) | |
| b. Identify material requirement process. ^(DOK1) | |
| 3. Identify capacity management and production activity control. ^(DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Discuss and explain elements related to capacity planning and scheduling orders. ^(DOK1) | |
| b. Apply techniques to solve bottlenecks. ^(DOK2) | |
| c. Explore forecasting as it relates to management, data, and seasonality. ^(DOK2) | |
| 4. Identify planning and managing systems. ^(DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Discuss cycle of ordering to keep up with demands. ^(DOK1) | |
| b. Discuss and apply principles of inventory and warehouse management, distribution, just in time manufacturing, and total quality management. ^(DOK2) | |

STANDARDS

Logistics Technology Standards

SOL1 System Management
 SOL2 Systems Development and Design
 SOL3 Acquisition and Product Support
 SOL4 Distribution and Customer Support

Related Academic Standards

R1 Interpret Graphic Information (forms, maps, reference sources)
 R2 Words in Context (same and opposite meaning)
 R3 Recall Information (details, sequence)
 R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
 R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)

- M1 Addition of Whole Numbers (no regrouping, regrouping)
- M2 Subtraction of Whole Numbers (no regrouping, regrouping)
- M3 Multiplication of Whole Numbers (no regrouping, regrouping)
- M4 Division of Whole Numbers (no remainder, remainder)
- M5 Decimals (addition, subtraction, multiplication, division)
- M6 Fractions (addition, subtraction, multiplication, division)
- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations
- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
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21st Century Skills

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- CS4 Health Literacy
- CS5 Environmental Literacy

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- CS7 Critical Thinking and Problem Solving
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- CS9 Information Literacy
- CS10 Media Literacy
- CS11 ICT Literacy

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International Air Transport Association (IATA). (n.d.). Retrieved December 7, 2010, from <http://www.iata.org/Pages/default.aspx>

The International Society of Logistic. (n.d.). Retrieved December 17, 2010, from <http://www.sole.org/>

Course Name: Purchasing

Course Abbreviation: LGT 1243

Classification: Career–Technical elective

Description: This course provides information about the purchasing function. Emphasis is placed on vendor analysis, negotiations, system contracts, public purchasing, competitive bidding, and personnel. (3 sch: 3-hr lecture)

Prerequisite: None

| Competencies and Suggested Objectives |
|--|
| 1. Explore the role of purchasing in supply chain management. (DOK2, SOL1, SOL2, SOL3, SOL4) <ul style="list-style-type: none"> a. Discuss purchasing operations. (DOK1) b. Analyze various purchasing structures. (DOK2) c. Describe critical supply chain elements involved in purchasing. (DOK1) d. Summarize strategic sourcing. (DOK2) e. Assess purchasing measurement categories. (DOK2) |

STANDARDS

Logistics Technology Standards

SOL1 System Management
 SOL2 Systems Development and Design
 SOL3 Acquisition and Product Support
 SOL4 Distribution and Customer Support

Related Academic Standards

R1 Interpret Graphic Information (forms, maps, reference sources)
 R2 Words in Context (same and opposite meaning)
 R3 Recall Information (details, sequence)
 R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
 R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
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 M3 Multiplication of Whole Numbers (no regrouping, regrouping)
 M4 Division of Whole Numbers (no remainder, remainder)
 M5 Decimals (addition, subtraction, multiplication, division)
 M6 Fractions (addition, subtraction, multiplication, division)
 M7 Integers (addition, subtraction, multiplication, division)
 M8 Percents
 M9 Algebraic Operations

- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
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21st Century Skills

CSS1-21st Century Themes

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- CS3 Civic Literacy
- CS4 Health Literacy
- CS5 Environmental Literacy

CSS2-Learning and Innovation Skills

- CS6 Creativity and Innovation
- CS7 Critical Thinking and Problem Solving
- CS8 Communication and Collaboration

CSS3-Information, Media and Technology Skills

- CS9 Information Literacy
- CS10 Media Literacy
- CS11 ICT Literacy

CSS4-Life and Career Skills

- CS12 Flexibility and Adaptability
 - CS13 Initiative and Self-Direction
 - CS14 Social and Cross-Cultural Skills
 - CS15 Productivity and Accountability
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-

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The International Society of Logistic. (n.d.). Retrieved December 17, 2010, from <http://www.sole.org/>

Course Name: Supply Chain Management

Course Abbreviation: LGT 1313

Classification: Career–Technical Core

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. (3 sch: 3-hr lecture)

Prerequisite: None

| Competencies and Suggested Objectives | |
|--|--|
| 1. Introduction and development of supply chains (DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Understand supply chain operation and management. (DOK1) | |
| b. Discuss strategic fit and scope of a supply chain. (DOK1) | |
| c. Evaluate chain drivers and metrics. (DOK2) | |
| 2. Explore supply chain network design. (DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Discuss distribution networks and application to e-business. (DOK1) | |
| b. Identify network designs and supply chains as they relate to an uncertain environment. (DOK2) | |
| 3. Explain planning demand and supply. (DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Discuss and explain elements related to demand forecasting. (DOK1) | |
| b. Read, comprehend, and apply aggregate planning. (DOK2) | |
| c. Explore managing predictable variability. (DOK2) | |
| 4. Identify planning and managing inventory systems. (DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Discuss cycle inventory and safety inventory. (DOK1) | |
| b. Read, comprehend, and apply determining product availability. (DOK2) | |
| 5. Explore designing and planning transportation networks. (DOK2, SOL1, SOL2, SOL3, SOL4) | |
| a. Discuss transportation designs and networks. (DOK2) | |
| b. Explore cross functional drivers. (DOK2) | |

STANDARDS

Logistics Technology Standards

SOL1 System Management
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- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations
- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
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- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
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- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
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- CS10 Media Literacy
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- CSS4-Life and Career Skills
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Course Name: Logistic Support Analysis

Course Abbreviation: LGT 1413

Classification: Career–Technical Core

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. (3 sch: 3-hr lecture)

Prerequisite: None

| Competencies and Suggested Objectives | |
|---|--|
| 1. Introduction to logistics ^(DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Discuss the three phases of logistics. ^(DOK1) | |
| b. Review the principle elements of logistics. ^(DOK1) | |
| c. Identify cycles and phases of logistics. ^(DOK2) | |
| 2. Identify engineering principles and procedures. ^(DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Design a reliability program. ^(DOK2) | |
| b. Explore reliability development, testing, and a maintainability program. ^(DOK2) | |
| c. Research testability, program monitoring, and control. ^(DOK2) | |
| d. Identify availability measures and predictions. ^(DOK1) | |
| 3. Examine internal operations. ^(DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Discuss personnel planning and staffing. ^(DOK1) | |
| b. Review support equipment. ^(DOK1) | |
| c. Identify supply support systems and management. ^(DOK1) | |
| 4. Explore facility use, size, and design. ^(DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Identify packing, handling, storage, and transportability issues regarding facilities. ^(DOK2) | |
| b. Identify maintenance procedures. ^(DOK1) | |
| c. Apply level of repair analysis concepts. ^(DOK1) | |
| d. Review current software support policies. ^(DOK1) | |
| e. Construct logistic support records, plans, and contracts. ^(DOK2) | |

STANDARDS

Logistics Technology Standards

SOL1 System Management

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SOL3 Acquisition and Product Support

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Related Academic Standards

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- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations
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- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
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The International Society of Logistic. (n.d.). Retrieved December 17, 2010, from <http://www.sole.org/>

Course Name: Production Planning and Controlling

Course Abbreviation: LGT 1513

Classification: Career–Technical Core

Description: This course provides managerial information regarding material requirements, capacity planning and control techniques, master production scheduling, and techniques in cost analysis. (3 sch: 3-hr lecture)

Prerequisite: None

| Competencies and Suggested Objectives | |
|--|--|
| 1. Introduction to planning and controlling. (DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Examine historical issues in planning and controlling. (DOK1) | |
| b. Explore the evolution of the scientific method regarding planning and controlling. (DOK1) | |
| c. Identify production and planning procedures. (DOK1) | |
| 2. Discuss productions systems. (DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Identify the different production systems. (DOK1) | |
| b. Compare and contrast the productions systems. (DOK2) | |
| 3. Explore the elements of planning and controlling. (DOK2, SOL1, SOL2, SOL3, SOL4) | |
| a. Discuss the functions of planning and controlling. (DOK1) | |
| b. Illustrate how planning and controlling models are useful in making decisions. (DOK2) | |
| c. Identify results and consequences of making decisions based on these models. (DOK2) | |
| 4. Review techniques for production planning. (DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Discuss Gantt charts, network models, product tree structures, and bills of materials. (DOK2) | |
| b. Apply team approach strategies to application models. (DOK2) | |
| c. Draw flowcharts for production planning. (DOK2) | |
| 5. Discuss medium term production planning. (DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Identify demand management practice with regards to forecasting. (DOK1) | |
| b. Determine short, medium, and long term capacity planning. (DOK2) | |
| c. Develop master production schedules and strategies. (DOK) | |

STANDARDS

Logistics Technology Standards

SOL1 System Management

SOL2 Systems Development and Design

SOL3 Acquisition and Product Support

SOL4 Distribution and Customer Support

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- M1 Addition of Whole Numbers (no regrouping, regrouping)
- M2 Subtraction of Whole Numbers (no regrouping, regrouping)
- M3 Multiplication of Whole Numbers (no regrouping, regrouping)
- M4 Division of Whole Numbers (no remainder, remainder)
- M5 Decimals (addition, subtraction, multiplication, division)
- M6 Fractions (addition, subtraction, multiplication, division)
- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations
- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
- S1 Vowel (short, long)
- S2 Consonant (variant spelling, silent letter)
- S3 Structural Unit (root, suffix)

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21st Century Skills

CSS1-21st Century Themes

- CS1 Global Awareness
- CS2 Financial, Economic, Business, and Entrepreneurial Literacy
- CS3 Civic Literacy
- CS4 Health Literacy
- CS5 Environmental Literacy

CSS2-Learning and Innovation Skills

- CS6 Creativity and Innovation
-

- CS7 Critical Thinking and Problem Solving
- CS8 Communication and Collaboration
- CSS3-Information, Media and Technology Skills
 - CS9 Information Literacy
 - CS10 Media Literacy
 - CS11 ICT Literacy
- CSS4-Life and Career Skills
 - CS12 Flexibility and Adaptability
 - CS13 Initiative and Self-Direction
 - CS14 Social and Cross-Cultural Skills
 - CS15 Productivity and Accountability
 - CS16 Leadership and Responsibility

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Institute for Supply Management (ISM). (n.d.). Retrieved December 7, 2010, from
<http://www.ism.ws/>

Course Name: Logistics Management

Course Abbreviation: LGT 2113

Classification: Career–Technical Core

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. (3 sch: 3-hr lecture)

Prerequisite: None

| Competencies and Suggested Objectives | |
|--|--|
| 1. Introduce the supply chain management concept. (DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Describe and discuss the supply chain management concept. (DOK1) | |
| b. Discuss business logistics. (DOK1) | |
| c. Explain the role of the customer in supply chain management. (DOK1) | |
| d. Explain supply side of logistics. (DOK1) | |
| e. Describe and discuss global logistics. (DOK1) | |
| 2. Describe and discuss inventory, warehousing, and transportation. (DOK1, SOL1, SOL2, SOL3, SOL4) | |
| a. Examine inventory as a critical activity. (DOK1) | |
| b. Discuss warehousing. (DOK2) | |
| c. Examine the transportation process. (DOK1) | |
| 3. Examine strategic issues related to logistics. (DOK2, SOL1, SOL2, SOL3, SOL4) | |
| a. Examine third-party logistics services. (DOK2) | |
| b. Examine supply chain information systems. (DOK2) | |
| c. Describe logistics performance measurements and metrics. ((DOK1) | |
| d. Discuss network design and facility location. (DOK1) | |
| e. Examine financial techniques used in logistics. (DOK2) | |
| f. Examine how to gain a competitive advantage. (DOK2) | |
| g. Discuss challenges related to the future of logistics. (DOK3) | |

STANDARDS

Logistics Technology Standards

SOL1 System Management
 SOL2 Systems Development and Design
 SOL3 Acquisition and Product Support
 SOL4 Distribution and Customer Support

Related Academic Standards

R1 Interpret Graphic Information (forms, maps, reference sources)
 R2 Words in Context (same and opposite meaning)

- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
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- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations
- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
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- CS3 Civic Literacy
- CS4 Health Literacy
- CS5 Environmental Literacy

CSS2-Learning and Innovation Skills

- CS6 Creativity and Innovation
- CS7 Critical Thinking and Problem Solving
- CS8 Communication and Collaboration

CSS3-Information, Media and Technology Skills

- CS9 Information Literacy
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- CS10 Media Literacy
- CS11 ICT Literacy
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The International Society of Logistic. (n.d.). Retrieved December 17, 2010, from <http://www.sole.org/>

Course Name: Automatic Identification/Data Capture in Logistics

Course Abbreviation: LGT 2324

Classification: Career–Technical Elective

Description: This course is a study of the methods of recognizing objects, getting information about them, and automatically entering that data or feeding it directly into computer systems without any human involvement. Automatic identification and data capture technologies include bar codes, Radio Frequency ID (RFID), Optical Character Recognition (OCR), magnetic stripes, smart cards and other data media. Laboratory experiences will emphasize bar coding and RFID technologies. Various automatic identification data capture applications will be used. (4 sch: 4-hr lecture)

Prerequisite: Consent of instructor and completion of at least one semester of advanced coursework in Logistics Technology

| Competencies and Suggested Objectives | |
|---|---|
| 1. Understanding the history of RFID, bar codes, and other data media (DOK1, SOL1, SOL2, SOL3, SOL4) | <ul style="list-style-type: none"> a. Discuss RFID and bar code history. (DOK1) b. Explore the basic introduction to common RFID and bar code components. (DOK1) c. Discuss the passive RFID system components. (DOK1) d. Discuss the active RFID system components. (DOK1) e. Explore and create RFID system designs. (DOK2) f. Review important RFID mandates in government and industry. (DOK1) g. Discuss data standards organizations and RFID standards. (DOK1) |
| 2. Integrate RFID/AIDC into logistics. (DOK1, SOL1, SOL2, SOL3, SOL4) | <ul style="list-style-type: none"> a. Discuss the importance of automatic data capture for AIDC integrators and managers. (DOK1) b. Review inventory control basics. (DOK1) c. Explore supply chain planning levels. (DOK2) |
| 3. RFID/AIDC implementation and management. (DOK1, SOL1, SOL2, SOL3, SOL4) | <ul style="list-style-type: none"> a. Explain AIDC project management. (DOK1) b. Discuss how to implement AIDC systems. (DOK2) |
| 4. Understanding and practical use/hands on RFID and bar code applications in an AIDC laboratory environment (DOK2, SOL1, SOL2, SOL3, SOL4) | <ul style="list-style-type: none"> a. Assess how RFID/bar code and GPS allow for real time transportation systems applications. (DOK3) b. Perform inventory data acquisition when analyzing warehousing applications. (DOK2) c. Apply tags on containers for tracking during marine terminal applications. (DOK2) d. Utilize tools and materials needed for RFID to assess maritime vessel security applications. (DOK2) e. Experiment with active and passive tags for tollway/vehicle applications. (DOK2) f. Utilize various types of RFID equipment systems used in DOD mandated unique identification (UID) requirements and other DOD Initiatives. (DOK2) |

| |
|---|
| <ul style="list-style-type: none"> g. Explore animal tracking applications using both internal and external tags. ^(DOK2) h. Understand how credit devices applications work. ^(DOK1) i. Learn how to make RFID tags/chips for secure document applications. ^(DOK1) j. Research tracking applications for customers at entertainment venues. ^(DOK2) k. Evaluate solutions for health-care improvement applications. ^(DOK2) l. Study and apply automation and self service library applications. ^(DOK2) m. Explore inventory tracking on international space station applications. ^(DOK2) n. Write tags used in competitive cycling, skating, and triathlon sports competition applications. ^(DOK2) o. Learn surgical applications involving surgical instrument tracking during/after surgery. ^(DOK1) |
| <p>5. Understand and practical use of RFID/AIDC case studies and research in both a classroom and laboratory environment. ^(DOK2, SOL1, SOL2, SOL3, SOL4)</p> <ul style="list-style-type: none"> a. Identify RFID/AIDC case studies and research in both a classroom and laboratory environment. ^(DOK2) b. Analyze RFID/AIDC case studies and research in both a classroom and laboratory environment. ^(DOK2) c. Apply RFID/AIDC case studies and research in both a classroom and laboratory environment. ^(DOK2) d. Evaluate RFID/AIDC case studies and research in both a classroom and laboratory environment. ^(DOK2) |

STANDARDS

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The International Society of Logistic. (n.d.). Retrieved December 17, 2010, from <http://www.sole.org/>

Course Name: Maintenance Management

Course Abbreviation: LGT 2513

Classification: Career–Technical Core

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. (3 sch: 3-hr lecture)

Prerequisite: None

| Competencies and Suggested Objectives | |
|--|--------------------------------|
| 1. Assess the patterns of maintenance management. | (DOK3, SOL1, SOL2, SOL3, SOL4) |
| a. Compare the patterns of maintenance management used currently and in the future. | (DOK2) |
| b. Contrast the patterns of maintenance management used currently and in the future. | (DOK3) |
| c. Identify the strategies to obtain a successful maintenance management system. | (DOK1) |
| d. Discuss and describe the strategies to obtain a successful maintenance management system. | (DOK2) |
| e. Discuss how to obtain support for these strategies. | (DOK2) |

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- M8 Percents
- M9 Algebraic Operations
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- CS8 Communication and Collaboration

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CSS4-Life and Career Skills

- CS12 Flexibility and Adaptability
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Course Name: Configuration Management

Course Abbreviation: LGT 2533

Classification: Career–Technical Core

Description: This course is designed to give the student a foundation of the interrelationship of configuration management to life cycle activities and logistics support. Emphasis will be placed on configuration identification, audits, controls, as well as data management. (3 sch: 3-hr lecture)

Prerequisite: None

| Competencies and Suggested Objectives | |
|--|--------------------------------|
| 1. Describe the various disciplines of configuration management. | (DOK1, SOL1, SOL2, SOL3, SOL4) |
| a. Identify the various disciplines of configuration management. | (DOK1) |
| b. Describe the various disciplines of configuration management. | (DOK2) |
| c. Assess the various disciplines of configuration management. | (DOK2) |
| 2. Discriminate the configuration management processes. | (DOK1, SOL1, SOL2, SOL3, SOL4) |
| a. Evaluate basic configuration management processes. | (DOK2) |
| b. Evaluate advanced configuration management processes. | (DOK2) |
| c. Compare and contrast basic and advanced configuration management processes. | (DOK3) |
| 3. Explore configuration management techniques. | (DOK1, SOL1, SOL2, SOL3, SOL4) |
| a. Identify configuration management techniques to establish and maintain control of hardware/software development activities. | (DOK2) |
| b. Integrate configuration management techniques to maintain control of hardware/software development activities. | (DOK2) |
| 4. Examine the importance of communications between the internal organizations as it relates to configuration management. | (DOK1, SOL1, SOL2, SOL3, SOL4) |
| a. Describe the importance of communications between the internal organizations. | (DOK1) |
| b. Understand and illustrate communication channels between the internal organizations, subcontractors, and vendors in configuration management. | (DOK2) |
| c. Understand and illustrate of communications between the internal organizations, vendors, and customers in configuration management. | (DOK2) |

STANDARDS

Logistics Technology Standards

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Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
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Course Name: Business Logistics Capstone Project

Course Abbreviation: LGT 2814

Classification: Career–Technical Core

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. (4 sch: 4-hr lecture)

Prerequisite: English Composition I (ENG 1113)

| Competencies and Suggested Objectives |
|---|
| 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. <ul style="list-style-type: none">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.). |

STANDARDS

Specific standards and DOK Level of competence for this course will depend upon the nature of the problem under investigation.

SUGGESTED REFERENCES

Specific references for this course will depend upon the nature of the project under investigation.

Course Name: Special Project

Course Abbreviation: LGT 291(1-3)

Classification: Career–Technical Elective

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. (1-3 sch hr)

Prerequisite: Consent of instructor

| Competencies and Suggested Objectives | |
|---|---|
| 1. Develop a written plan that details the activities and projects to be completed. | <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> a. Develop and follow a set of written guidelines for the special problem. |

STANDARDS

Specific standards and DOK Level of competence for this course will depend upon the nature of the problem under investigation.

SUGGESTED REFERENCES

Specific references for this course will depend upon the nature of the problem under investigation.

Appendix A: Standards for Logistics Technology¹

Industry standards referenced are from The International Society of Logistics <http://www.sole.org/default.asp>, The Demonstrated Logistician Program, <http://www.sole.org/dlp.asp>.

SOL1 System Management
SOL2 Systems Development and Design
SOL3 Acquisition and Product Support
SOL4 Distribution and Customer Support

¹ SOLE. (2010). 2010 The International Society of Logistics Standards for Demonstrated Logistician Program. Retrieved December 10, 2010, from <http://www.sole.org/>

Appendix B: Related Academic Standards²

Reading

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)

Mathematics Computation

- M1 Addition of Whole Numbers (no regrouping, regrouping)
- M2 Subtraction of Whole Numbers (no regrouping, regrouping)
- M3 Multiplication of Whole Numbers (no regrouping, regrouping)
- M4 Division of Whole Numbers (no remainder, remainder)
- M5 Decimals (addition, subtraction, multiplication, division)
- M6 Fractions (addition, subtraction, multiplication, division)
- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations

Applied Mathematics

- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)

Language

- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)

Spelling

- S1 Vowel (short, long)
- S2 Consonant (variant spelling, silent letter)
- S3 Structural Unit (root, suffix)

² CTB/McGraw-Hill LLC. (2005). *Tests of adult basic education, forms 9 and 10*. Monterey, CA: Author.
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Appendix C: 21st Century Skills³

CSS1-21st Century Themes

CS1 Global Awareness

1. Using 21st century skills to understand and address global issues
2. Learning from and working collaboratively with individuals representing diverse cultures, religions, and lifestyles in a spirit of mutual respect and open dialogue in personal, work and community contexts
3. Understanding other nations and cultures, including the use of non-English languages

CS2 Financial, Economic, Business, and Entrepreneurial Literacy

1. Knowing how to make appropriate personal economic choices
2. Understanding the role of the economy in society
3. Using entrepreneurial skills to enhance workplace productivity and career options

CS3 Civic Literacy

1. Participating effectively in civic life through knowing how to stay informed and understanding governmental processes
2. Exercising the rights and obligations of citizenship at local, state, national, and global levels
3. Understanding the local and global implications of civic decisions

CS4 Health Literacy

1. Obtaining, interpreting and understanding basic health information and services and using such information and services in ways that enhance health
2. Understanding preventive physical and mental health measures, including proper diet, nutrition, exercise, risk avoidance and stress reduction
3. Using available information to make appropriate health-related decisions
4. Establishing and monitoring personal and family health goals
5. Understanding national and international public health and safety issues

CS5 Environmental Literacy

1. Demonstrate knowledge and understanding of the environment and the circumstances and conditions affecting it, particularly as relates to air, climate, land, food, energy, water, and ecosystems
2. Demonstrate knowledge and understanding of society's impact on the natural world (e.g., population growth, population development, resource consumption rate, etc.)
3. Investigate and analyze environmental issues, and make accurate conclusions about effective solutions
4. Take individual and collective action towards addressing environmental challenges (e.g., participating in global actions, designing solutions that inspire action on environmental issues)

CSS2-Learning and Innovation Skills

CS6 Creativity and Innovation

1. Think Creatively

³ *21st century skills*. (n.d.). Washington, DC: Partnership for 21st Century Skills.

- 2. Work Creatively with Others
- 3. Implement Innovations
- CS7 Critical Thinking and Problem Solving
 - 1. Reason Effectively
 - 2. Use Systems Thinking
 - 3. Make Judgments and Decisions
 - 4. Solve Problems
- CS8 Communication and Collaboration
 - 1. Communicate Clearly
 - 2. Collaborate with Others

CSS3-Information, Media, and Technology Skills

- CS9 Information Literacy
 - 1. Access and Evaluate Information
 - 2. Use and Manage Information
- CS10 Media Literacy
 - 1. Analyze Media
 - 2. Create Media Products
- CS11 ICT Literacy
 - 1. Apply Technology Effectively

CSS4-Life and Career Skills

- CS12 Flexibility and Adaptability
 - 1. Adapt to change
 - 2. Be Flexible
- CS13 Initiative and Self-Direction
 - 1. Manage Goals and Time
 - 2. Work Independently
 - 3. Be Self-directed Learners
- CS14 Social and Cross-Cultural Skills
 - 1. Interact Effectively with others
 - 2. Work Effectively in Diverse Teams
- CS15 Productivity and Accountability
 - 1. Manage Projects
 - 2. Produce Results
- CS16 Leadership and Responsibility
 - 1. Guide and Lead Others
 - 2. Be Responsible to Others