2008 Mississippi Curriculum Framework

Postsecondary Automotive Vehicles and Accessories Marketing Operations
(Program CIP: 52.1907 – Vehicle and Vehicle Parts and Accessories Marketing Operations)

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

Standards and Guidelines for Automotive Parts Specialists Programs
Reprinted with permission from ASE–Parts Specialist Standards, 101 Blue Seal Drive, Suite 101, Leesburg, VA 20175, www.ase.com

Related Academic Standards

21st Century Skills
Reproduced with permission of the Partnership for 21st Century Skills. Further information may be found at www.21stcenturyskills.org.
Preface

Postsecondary Automotive Vehicles and Accessories Marketing Operations

Research Synopsis

Articles, books, Web sites, and other materials listed at the end of each course were considered during the revision process. The National Institute for Automotive Service Excellence’s *The Blue Seal Tech News* and *AutoInc.* 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.

Industry advisory team members from colleges throughout the state were asked to give input related to changes to be made to the curriculum framework. Specific comments related to soft skills needed in this program included a positive attitude, being at work every day and being on time, and having reading and writing skills to complete work orders and other forms. Occupational-specific skills stated included customer service skills, general automotive knowledge, and trouble-shooting skills. Safety practices emphasized included practicing all safety rules and abiding by all local, state, and federal laws.

Instructors from colleges throughout the state were also asked to give input on changes to be made to the curriculum framework. Specific comments related to this program included statements from Advisory Committee members supporting the need for this program.

Curriculum

The following national standards were referenced in each course of the curriculum:
- CTB/McGraw-Hill LLC *Tests of Adult Basic Education, Forms 7 and 8* Academic Standards
- 21st Century Skills
- ASE Parts Specialist

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 revision meeting included the following:
- All competencies and objectives were reviewed to ensure accuracy and appropriateness.
- The Recommended Tools and Equipment list was updated.
- A reference list of Web sites, text, and other training material was added.

Assessment

Students will be assessed using the Postsecondary Automotive Vehicles and Accessories Marketing Operations CPAS test.

Professional Learning

It is suggested that instructors participate in professional learning related to the following concepts:
Differentiated instruction – To learn more about differentiated instruction, please go to [http://www.paec.org/teacher2teacher/additional_subjects.html](http://www.paec.org/teacher2teacher/additional_subjects.html), and select Differentiated Instruction. Work through this online course, and review the additional resources.

For the latest in online and yearly Connect training provided by the RCU, please go to [http://info.rcu.msstate.edu/](http://info.rcu.msstate.edu/).

Multiple learning styles inventory training – To learn more about multiple learning styles inventory training, please go to the following:

- [http://eduscapes.com/tap/topic68.htm](http://eduscapes.com/tap/topic68.htm) (Technology and Multiple Intelligences)
- [http://asp.wlv.ac.uk/Level6.asp?UserType=8&Level6=1112](http://asp.wlv.ac.uk/Level6.asp?UserType=8&Level6=1112) (WLV–Learning Styles)

**Articulation**

No articulated credit will be offered upon implementation of this curriculum by the college.
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. Vocational–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 vocational–technical programs. Federal and state legislation calls for articulation between high school and community college programs, integration of academic and vocational 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 vocational 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, developers of the National Educational Technology Standards (NETS), were strategic partners 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 vocational–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/junior colleges in reporting students
- **Course Abbreviation** – A common abbreviation that will be used by all community/junior colleges in reporting students
- **Classification** – Courses may be classified as:
  - Vocational–technical core – A required vocational–technical course for all students
Area of concentration (AOC) core – A course required in an area of concentration of a cluster of programs

Vocational–technical elective – An elective vocational–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 percent of the time allocated to each course. The remaining 25 percent of each course should be developed at the local district level and may reflect the following:
  
  o 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

  o Activities that develop a higher level of mastery on the existing competencies and suggested objectives

  o Activities and instruction related to new technologies and concepts that were not prevalent at the time the current framework was developed and revised

  o Activities that implement components of the Mississippi Tech Prep initiative, including integration of academic and vocational–technical skills and coursework, school-to-work transition activities, and articulation of secondary and postsecondary vocational–technical programs

  o Individualized learning activities, including worksite learning activities, to better prepare individuals in the courses for their chosen occupational area

- 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:
  o 3 semester credit hours       Math/Science Elective
  o 3 semester credit hours       Written Communications Elective
  o 3 semester credit hours       Oral Communications Elective
  o 3 semester credit hours       Humanities/Fine Arts Elective
  o 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 vocational–technical courses each semester. Each community/junior college has the discretion to select the actual courses that are required to meet this academic core requirement.

• 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:
  • adding new competencies and suggested objectives.
  • revising or extending the suggested objectives for individual competencies.
  • adjusting the semester credit hours of a course to be up one hour or down one 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:
  • 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

Automotive Vehicles and Accessories Marketing Operations includes theory, laboratory, shop work, and other specialized learning experiences relative to receiving, stocking, selling, and shipping merchandise in the automotive aftermarket. Included is the study of mathematical procedures related to business operation, engine theory and operation, automotive systems, the use of office machines, auto parts store management, customer relations, and computer-based instruction.

Specific training will enable the student to ascertain the correct part required by the customer, advise the customer according to the description given, read various catalogs to determine the stock number and price, measure engine parts, mix paint, display merchandise, determine correct interchange parts, accept telephone orders, and take inventory.

Instruction emphasizes distribution of parts and services within the automotive aftermarket in establishments such as distributors, jobbers, retail part stores, specialty shops, car dealers, independent garages, fleet garages, and service stations.

Automotive Vehicles and Accessories Marketing Operations is a one-year certificate program designed to prepare automotive parts salespersons for entry-level positions in automotive parts marketing.

This document was developed according to national standards for automotive parts service as prepared in The Official ASE Catalog of Test/Parts Specialist by the National Institute for Automotive Service Excellence in Leesburg, VA.
Suggested Course Sequence
Automotive Vehicles and Accessories Marketing Operations

FIRST YEAR

2 sch Orientation and Safety Procedures (AAV 1112)  
6 sch Operational Procedures (AAV 1126)  
4 sch Automotive Systems I (AAV 1214)  
4 sch Automotive Systems II (AAV 1224)  

16 sch  

6 sch Catalog Information Systems (AAV 1316)  
2 sch Merchandising (AAV 1322)  
4 sch Internal Operations (AAV 1414)  
4 sch Internal Sales (AAV 1424)  

16 sch  

SUMMER TERM

1–6 sch Supervised Work Experience in Automotive Vehicles and Accessories Marketing [AAV 192(1–6)]  

OR


1–6 sch  

* Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.
Automotive Vehicles and Accessories Marketing Operations Courses

Course Name: Orientation and Safety Procedures

Course Abbreviation: AAV 1112

Classification: Vocational–Technical Core

Description: An orientation to the history of accessories marketing, job opportunities, and the physical structure of the industry. Safety procedures including OSHA and EPA regulations, proper use of hand and power tools, shop hazards, and legal responsibilities are discussed and implemented throughout this course. (2 sch: 2-hr lecture)

Prerequisite: None

<table>
<thead>
<tr>
<th>Competencies and Suggested Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Discuss the history and job opportunities related to the auto parts industry.</td>
</tr>
<tr>
<td>a. Trace the development of the auto parts industry from 1885 to the present.</td>
</tr>
<tr>
<td>b. Identify and describe the qualifications, training, and advancement in the industry to include outlook, wages, and working conditions.</td>
</tr>
<tr>
<td>2. Identify the physical structure of the auto parts facility.</td>
</tr>
<tr>
<td>a. Describe the physical layout and basic operation of the parts business.</td>
</tr>
<tr>
<td>b. Explain how changes in technology have affected the auto parts industry, including computers.</td>
</tr>
<tr>
<td>3. Identify and demonstrate the proper safety procedures to be used throughout the parts facility.</td>
</tr>
<tr>
<td>a. Discuss and apply OSHA and EPA regulations and the legal responsibilities related to the parts business.</td>
</tr>
<tr>
<td>b. Discuss and perform the proper procedures for using hand and power tools.</td>
</tr>
<tr>
<td>c. Identify and perform proper shop safety practices to include fire hazards, lifting, carrying, and loading.</td>
</tr>
</tbody>
</table>

STANDARDS

Standards and Guidelines for Automotive Parts Specialists Programs

APS – 1 General Operations
APS – 2 Customer Relations and Sales Skills
APS – 3 Vehicle Systems Knowledge

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 and paraphrase, compare and contrast, cause and effect)
R5 Evaluate and Extend Meaning (fact and opinion, predict outcomes, point of view)
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

CS1 Global Awareness
CS2 Financial, Economic, and Business Literacy
CS3 Civic Literacy
CS4 Information and Communication Skills
CS5 Thinking and Problem-Solving Skills
CS6 Interpersonal and Self-Directional Skills

SUGGESTED REFERENCES

Journals


Texts


**Videos**


**Computer-based training**


**Industry-based training**

Industry-based training information may be obtained from the following Web site: http://www.ase.com/ContentManagement/ContentDisplay.cfm?ContentID=5144.

**Web sites**


Course Name: Operational Procedures

Course Abbreviation: AAV 1126

Classification: Vocational–Technical Core

Description: Everyday operations in the auto parts business, including proper business procedures, customer service, and sales procedures. (6 sch: 3-hr lecture, 6-hr lab)

Prerequisite: None

<table>
<thead>
<tr>
<th>Competencies and Suggested Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Discuss proper business procedures to include store layout, security, and basic operations.</td>
</tr>
<tr>
<td>a. Describe and discuss the proper layout of the store and the importance of each store section.</td>
</tr>
<tr>
<td>b. Discuss and demonstrate store security and emergency procedures.</td>
</tr>
<tr>
<td>c. Introduce basic operation procedures to include part numbers and pricing, routine and non-routine items, catalogs, core tags, and invoices.</td>
</tr>
<tr>
<td>2. Identify characteristics related to customer service skills.</td>
</tr>
<tr>
<td>a. Outline and practice proper telephone skills.</td>
</tr>
<tr>
<td>b. Explain and practice proper counter skills for serving customers.</td>
</tr>
<tr>
<td>3. Discuss various sales procedures related to the auto parts business.</td>
</tr>
<tr>
<td>a. Prepare various sales tickets to include cash, charge, and credit memos.</td>
</tr>
<tr>
<td>b. Identify and apply procedures for figuring sales tax.</td>
</tr>
<tr>
<td>c. Discuss the importance of the factory representative to the parts business.</td>
</tr>
</tbody>
</table>

STANDARDS

Standards and Guidelines for Automotive Parts Specialists Programs

APS – 1 General Operations
APS – 2 Customer Relations and Sales Skills

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 and paraphrase, compare and contrast, cause and effect)
R5 Evaluate and Extend Meaning (fact and 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
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

CS2 Financial, Economic, and Business Literacy
CS4 Information and Communication Skills
CS5 Thinking and Problem-Solving Skills
CS6 Interpersonal and Self-Directional Skills

SUGGESTED REFERENCES

Journals


Texts


Videos


Computer-based training


Industry-based training

Industry-based training information may be obtained from the following Web site:

Web sites


Course Name: Automotive Systems I

Course Abbreviation: AAV 1214

Classification: Vocational–Technical Core

Description: Function and identification of the power train, including engine, transmission, drive line, and axles. (4 sch: 1-hr lecture, 6-hr lab)

Prerequisite: None

<table>
<thead>
<tr>
<th>Competencies and Suggested Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demonstrate the identification and function of the parts of an engine.</td>
</tr>
<tr>
<td>a. Identify the three classifications of engines.</td>
</tr>
<tr>
<td>b. Identify and discuss the parts of an engine and their function.</td>
</tr>
</tbody>
</table>

| 2. Demonstrate the identification and function of the parts of a transmission. |
| a. Identify the two types of transmissions. |
| b. Identify and discuss the parts of the transmissions. |

| 3. Demonstrate the identification and function of the parts of the drive line and axles. |
| a. Identify the types of drive lines and axles. |
| b. Identify and discuss the parts of the drive lines and the axles. |

STANDARDS

Standards and Guidelines for Automotive Parts Specialists Programs

- APS – 3 Vehicle Systems Knowledge
- APS – 4 Vehicle Identification

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 and paraphrase, compare and contrast, cause and effect)
R5 Evaluate and Extend Meaning (fact and 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)
A5 Measurement (money, time, temperature, length, area, volume)
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)
21st Century Skills

CS1 Global Awareness
CS2 Financial, Economic, and Business Literacy
CS4 Information and Communication Skills
CS5 Thinking and Problem-Solving Skills
CS6 Interpersonal and Self-Directional Skills

SUGGESTED REFERENCES

Journals


Texts


Videos


Computer-based training


Industry-based training

Industry-based training information may be obtained from the following Web site:

Web sites


Course Name: Automotive Systems II

Course Abbreviation: AAV 1224

Classification: Vocational–Technical Core

Description: Function and identification of automotive systems, including brake systems, cooling systems, electrical systems, heating and air conditioning systems, and suspension systems (4 sch: 1-hr lecture, 6-hr lab)

Prerequisite: None

<table>
<thead>
<tr>
<th>Competencies and Suggested Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demonstrate the identification and function of the parts of a brake system.</td>
</tr>
<tr>
<td>a. Identify the parts of the brake system.</td>
</tr>
<tr>
<td>b. Discuss the function of the brake system.</td>
</tr>
<tr>
<td>2. Demonstrate the identification and function of the parts of a cooling system.</td>
</tr>
<tr>
<td>a. Identify the parts of the cooling system.</td>
</tr>
<tr>
<td>b. Discuss the function of the cooling system.</td>
</tr>
<tr>
<td>3. Demonstrate the identification and function of the parts of an electrical system.</td>
</tr>
<tr>
<td>a. Identify the parts of the electrical system.</td>
</tr>
<tr>
<td>b. Discuss the function of the electrical system.</td>
</tr>
<tr>
<td>4. Demonstrate the identification and function of the parts of a heating and air conditioning system.</td>
</tr>
<tr>
<td>a. Identify the parts of the heating and air conditioning system.</td>
</tr>
<tr>
<td>b. Discuss the function of the heating and air conditioning system.</td>
</tr>
<tr>
<td>5. Demonstrate the identification and function of the parts of a suspension system.</td>
</tr>
<tr>
<td>a. Identify the parts of the suspension system.</td>
</tr>
<tr>
<td>b. Discuss the function of the suspension system.</td>
</tr>
<tr>
<td>6. Discuss and demonstrate product knowledge and paint mixing of various systems.</td>
</tr>
<tr>
<td>a. Identify the different paint finishes.</td>
</tr>
<tr>
<td>b. Identify the correct paint for a particular vehicle.</td>
</tr>
<tr>
<td>c. Mix paint for a specific vehicle.</td>
</tr>
</tbody>
</table>

STANDARDS

Standards and Guidelines for Automotive Parts Specialists Programs

APS – 3 Vehicle Systems Knowledge
APS – 4 Vehicle Identification

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 and paraphrase, compare and contrast, cause and effect)
R5 Evaluate and Extend Meaning (fact and opinion, predict outcomes, point of view)
M1 Addition of Whole Numbers (no regrouping, regrouping)
M2 Subtraction of Whole Numbers (no regrouping, regrouping)
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

CS1 Global Awareness
CS2 Financial, Economic, and Business Literacy
CS4 Information and Communication Skills
CS5 Thinking and Problem-Solving Skills
CS6 Interpersonal and Self-Directional Skills

SUGGESTED REFERENCES

Journals


Texts


Videos


Computer-based training


Industry-based training

Industry-based training information may be obtained from the following Web site:

Web sites


Course Name: Catalog Information Systems

Course Abbreviation: AAV 1316

Classification: Vocational–Technical Core

Description: Hard copy, microfiche, and computerized catalogs. Also included are the writing of invoices, interpreting price sheets, and calculating discounts. (6 sch: 3-hr lecture, 6-hr lab)

Prerequisite: None

<table>
<thead>
<tr>
<th>Competencies and Suggested Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Utilize and interpret a hard copy, microfiche, and computerized catalog.</td>
</tr>
<tr>
<td>a. Explain the use of the hard copy, microfiche, and computerized catalog.</td>
</tr>
<tr>
<td>b. Demonstrate proper usage of the hard copy, microfiche, and computerized catalog.</td>
</tr>
<tr>
<td>c. Identify and locate specific parts according to customer request.</td>
</tr>
<tr>
<td>2. Demonstrate the procedures for accurately completing an invoice.</td>
</tr>
<tr>
<td>a. Explain and apply the proper usage of various price sheets.</td>
</tr>
<tr>
<td>b. Explain and calculate discounts, taxes, and totals.</td>
</tr>
<tr>
<td>c. Complete a sales invoice to include accurate price, discount, tax, and totals.</td>
</tr>
</tbody>
</table>

STANDARDS

Standards and Guidelines for Automotive Parts Specialists Programs

APS – 5 Cataloging Skills

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 and paraphrase, compare and contrast, cause and effect)
R5 Evaluate and Extend Meaning (fact and 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
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

CS1 Global Awareness
CS2 Financial, Economic, and Business Literacy
CS4 Information and Communication Skills
CS5 Thinking and Problem-Solving Skills
CS6 Interpersonal and Self-Directional Skills

SUGGESTED REFERENCES

Journals


Texts


Videos


Computer-based training


Industry-based training

Industry-based training information may be obtained from the following Web site:

Web sites


Course Name: Merchandising

Course Abbreviation: AAV 1322

Classification: Vocational–Technical Core

Description: General parts store layout to include merchandise displays and parts bin layout. (2 sch: 1-hr lecture, 2-hr lab)

Prerequisite: None

<table>
<thead>
<tr>
<th>Competencies and Suggested Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demonstrate the proper display of merchandise.</td>
</tr>
<tr>
<td>a. Discuss the image of the auto parts store in the minds of customers.</td>
</tr>
<tr>
<td>b. Explain the ways displays, advertising, and product literature can benefit an auto parts store.</td>
</tr>
<tr>
<td>c. Discuss rules to follow when arranging product displays.</td>
</tr>
<tr>
<td>d. Set up a product display.</td>
</tr>
</tbody>
</table>

STANDARDS

Standards and Guidelines for Automotive Parts Specialists Programs

APS – 7 Merchandising

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 and paraphrase, compare and contrast, cause and effect)
R5 Evaluate and Extend Meaning (fact and 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
A5 Measurement (money, time, temperature, length, area, volume)
A8 Estimation (rounding, estimation)
L1 Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2 Sentence Formation (fragments, run-on, clarity)
Postsecondary Automotive Vehicles and Accessories Marketing Operations

SUGGESTED REFERENCES

Journals


Texts


Videos


Computer-based training


Industry-based training

Industry-based training information may be obtained from the following Web site:

Web sites


Course Name: Internal Operations

Course Abbreviation: AAV 1414

Classification: Vocational–Technical Core

Description: Daily operations of a parts store including shipping and receiving, stocking and storing merchandise, counter operations, and physical inventory. (4 sch: 1-hr lecture, 6-hr lab)

Prerequisite: None

### Competencies and Suggested Objectives

<table>
<thead>
<tr>
<th>1. Demonstrate the proper procedure for receiving merchandise.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Define and discuss shipping forms and terms to include bin, shipping receipt, packing slip, invoice, order, prepaid shipment, C.O.D., bill of lading, and supersede.</td>
</tr>
<tr>
<td>b. Apply proper procedures for receiving and stocking merchandise.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Demonstrate customer service skills.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Simulate telephone skills in handling various customer situations.</td>
</tr>
<tr>
<td>b. Simulate proper skills in handling various in-store customer situations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Identify and apply complete inventory procedures.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Identify the procedures for conducting a physical and perpetual inventory.</td>
</tr>
<tr>
<td>b. Apply procedures for conducting a physical and perpetual inventory.</td>
</tr>
</tbody>
</table>

### STANDARDS

Standards and Guidelines for Automotive Parts Specialists Programs

APS – 1 General Operations
APS – 2 Customer Relations and Sales Skills
APS – 6 Inventory Management
APS – 7 Merchandising

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 and paraphrase, compare and contrast, cause/ and effect)
R5 Evaluate and Extend Meaning (fact and 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
A5 Measurement (money, time, temperature, length, area, volume)
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

CS1 Global Awareness
CS2 Financial, Economic, and Business Literacy
CS4 Information and Communication Skills
CS5 Thinking and Problem-Solving Skills
CS6 Interpersonal and Self-Directional Skills

SUGGESTED REFERENCES

Journals


Texts


Videos


Computer-based training


Industry-based training

Industry-based training information may be obtained from the following Web site:

Web sites


Course Name: Internal Sales

Course Abbreviation: AAV 1424

Classification: Vocational–Technical Core

Description: Sales skills using hard copy and computerized cataloging and pricing. (4 sch: 1-hr lecture, 6-hr lab)

Prerequisite: None

### Competencies and Suggested Objectives

1. Demonstrate the six basic skills that apply to getting the right part for the customer.
   a. Explain the six basic skills that apply to getting the right part for the customer.
   b. Perform the six basic skills that apply to getting the right part for the customer.

2. Demonstrate the rules used in selling related parts, turning price calls into sales, and overcoming objections.
   a. Explain the rules used in selling related parts, turning price calls into sales, and overcoming objections.
   b. Simulate the rules in selling related parts, turning price calls into sales, and overcoming objections.

3. Demonstrate testing automotive parts to include batteries, alternators, starters, voltage regulators, and control modules.
   a. Discuss and describe safety and operating procedures related to testing batteries, alternators, starters, voltage regulators, and control modules.
   b. Apply safety and operating procedures related to testing batteries, alternators, starters, voltage regulators, and control modules.

4. Demonstrate the proper procedures to assemble hydraulic hoses and resurface brakes, rotors, and drums.
   a. Discuss and describe safety and operating procedures related to crimping machines and brake lathes.
   b. Apply safety and operating procedures related to crimping machines and brake lathes.

### STANDARDS

Standards and Guidelines for Automotive Parts Specialists Programs

- APS – 1 General Operations
- APS – 2 Customer Relations and Sales Skills
- APS – 3 Vehicle Systems Knowledge
- APS – 7 Merchandising

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 and paraphrase, compare and contrast, cause and effect)
R5  Evaluate and Extend Meaning (fact and 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
A5  Measurement (money, time, temperature, length, area, volume)
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

CS1  Global Awareness
CS2  Financial, Economic, and Business Literacy
CS3  Civic Literacy
CS4  Information and Communication Skills
CS5  Thinking and Problem-Solving Skills
CS6  Interpersonal and Self-Directional Skills

SUGGESTED REFERENCES

Journals

Texts


Videos


Computer-based training


Industry-based training

Industry-based training information may be obtained from the following Web site: http://www.ase.com/ContentManagement/ContentDisplay.cfm?ContentID=5144.

Web sites


Course Name: Work-Based Learning I, II, III, IV, V, and VI


Classification: Free Elective

Description: A structured worksite learning experience in which the student, program area teacher, Work-Based Learning Coordinator, and worksite supervisor/mentor develop and implement an educational training agreement. Designed to integrate the student’s academic and technical skills into a work environment. May include regular meetings and seminars with school personnel and employers for supplemental instruction and progress reviews. (1–3 sch: 3–9 hours externship)

Prerequisite: Concurrent enrollment in vocational–technical program area courses

### Competencies and Suggested Objectives

<table>
<thead>
<tr>
<th>1. Apply technical skills and related academic knowledge needed to be a viable member of the workforce.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Demonstrate technical skills necessary to complete job requirements.</td>
</tr>
<tr>
<td>b. Demonstrate academic skills necessary to complete job requirements.</td>
</tr>
<tr>
<td>c. Perform tasks detailed in an educational training agreement at the work setting.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Apply general workplace skills to include positive work habits necessary for successful employment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Demonstrate appropriate human relationship skills in the work setting to include conflict resolution, team participation, leadership, negotiation, and customer/client service.</td>
</tr>
<tr>
<td>b. Utilize time, materials, and resource management skills.</td>
</tr>
<tr>
<td>c. Use critical thinking skills such as problem solving, decision making, and reasoning.</td>
</tr>
<tr>
<td>d. Acquire, evaluate, organize, maintain, interpret, and communicate information.</td>
</tr>
</tbody>
</table>

### STANDARDS

Specific standards 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.
**Course Name:** Supervised Work Experience in Automotive Vehicles and Accessories Marketing Operations

**Course Abbreviation:** AAV 192(1–6)

**Classification:** Vocational–Technical Core

**Description:** A course that is a cooperative program between industry and education 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. (1–6 sch: 3- to 18-hr externship)

**Prerequisite:** Consent of instructor and completion of at least one semester of advanced coursework in Automotive Vehicles and Accessories Marketing Operations

### Competencies and Suggested Objectives

<table>
<thead>
<tr>
<th>Competency</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Follow a set of instructor-written guidelines for the supervised work experience program.</td>
</tr>
<tr>
<td>2.</td>
<td>Apply skills needed to be a viable member of the workforce.</td>
</tr>
<tr>
<td>2.a</td>
<td>Prepare a description of skills to be developed in the supervised work experience program.</td>
</tr>
<tr>
<td>2.b</td>
<td>Practice skills needed to be a viable member of the workforce.</td>
</tr>
<tr>
<td>3.</td>
<td>Practice human relationship skills in the supervised work experience program.</td>
</tr>
<tr>
<td>4.</td>
<td>Practice positive work habits, responsibilities, and ethics.</td>
</tr>
<tr>
<td>5.</td>
<td>Develop written occupational objectives in the supervised work experience program.</td>
</tr>
<tr>
<td>6.</td>
<td>Assess performance of occupational skills.</td>
</tr>
<tr>
<td>6.a</td>
<td>Prepare daily written assessments of work performance as specified in the occupational objectives.</td>
</tr>
<tr>
<td>6.b</td>
<td>Present weekly written reports of activities performed and objectives accomplished to the instructor.</td>
</tr>
</tbody>
</table>

### STANDARDS

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

### SUGGESTED REFERENCES

Specific references for use in this course will depend upon the nature of the problem under investigation.
Recommended Tools and Equipment

CAPITALIZED ITEMS

1. Paint mixer with scales and shaker (1/lab)
2. Brake lathe (1/lab)
3. Alternator/starter tester (1/lab)
4. Hose press and tooling package (1/lab)
5. Computers (12/lab)
6. Bin part auto storage—minimum 8 ft (5/lab)
7. Gondolas display (1/lab)
8. Microfiche reader with tray (1/lab)

NON-CAPITALIZED ITEMS

1. Battery tester (1/lab)
2. Battery hydrometer (1/lab)
3. Voltage regulator tester (1/lab)
4. Control module tester (1/lab)
5. Volt ohm meter (1/lab)
6. Printers (6/lab)
7. Switch boxes (6/lab)
8. Hand tools (1 set/lab)
9. Calculators (10/lab)
10. 20 ft by 28 ft by 30 in. counter (1/lab)
11. Cash drawer or cash register (1/lab)

RECOMMENDED INSTRUCTIONAL AIDS

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

1. Computer
2. Printer
3. TV/VCR
4. Camcorder
5. VGA device

INSTRUCTIONAL RESOURCES

1. Automotive parts software with computerized cataloging
2. Accounting/Inventory software
Assessment

Blueprint

This program is assessed using the MS-CPAS. The following blueprint summary contains the courses that are measured when assessing this program. Courses are grouped into clusters and a weight is given to each cluster to determine the number of items needed from each cluster. The numbers of C1s and C2s (item difficulty levels) are also indicated on the blueprint. This blueprint becomes effective Summer 2007.

<table>
<thead>
<tr>
<th>Cluster/Competency</th>
<th>Level 1 (C1)</th>
<th>Level 2 (C2)</th>
<th>TOTAL</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cluster 1: Safety &amp; Operational Procedures</strong></td>
<td>7</td>
<td>2</td>
<td>9</td>
<td>25%</td>
</tr>
<tr>
<td>AAV 1112 Orientation and Safety Procedures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAV 1126 Operational Procedures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cluster 2: Automotive Systems</strong></td>
<td>7</td>
<td>2</td>
<td>9</td>
<td>25%</td>
</tr>
<tr>
<td>AAV 1214 Automotive Systems I</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAV 1224 Automotive Systems II</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cluster 3: Catalog Information Systems</strong></td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>19%</td>
</tr>
<tr>
<td>AAV 1316 Catalog Information Systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cluster 4: Internal Operations &amp; Sales</strong></td>
<td>8</td>
<td>3</td>
<td>11</td>
<td>31%</td>
</tr>
<tr>
<td>AAV 1322 Merchandising</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAV 1414 Internal Operations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAV 1424 Internal Sales</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Hours: 30</strong></td>
<td>26</td>
<td>9</td>
<td>35</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total Questions:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix A: Standards and Guidelines for Automotive Parts Specialists Programs

NATIONAL INSTITUTE FOR AUTOMOTIVE SERVICE EXCELLENCE TASK LIST

APS1 Perform general operations tasks.

- Calculate discounts, profits, percentages, and pro-rated warranties.
- Calculate special handling charges.
- Identify and convert units of measure.
- Determine alphanumeric sequences.
- Determine sizes with precision measuring tools and equipment.
- Perform money transactions (cash, checks, credit and debit cards).
- Perform sales and credit invoicing.
- Interact with management and fellow employees.
- Understand the value of housekeeping skills (facility, work stations, and backroom).
- Assist with employee and customer training.
- Identify potential safety risks.
- Demonstrate proper safety practices.
- Identify proper handling of regulated and/or hazardous materials.
- Identify potential security risks.
- Identify parts industry terminology.
- Understand the value of company policies and procedures.
- Understand the basic functions of tools and equipment used in automotive service.

APS2 Demonstrate customer relations and sales skills.

- Identify customer types and skill level.
- Identify customer needs.
- Provide information.
- Handle customer complaints and returns.
- Acknowledge and greet customers.
- Demonstrate proper telephone skills.
- Obtain pertinent application information.
- Present a knowledgeable and professional image.
- Recognize the value of selling related items.
- Identify product features and benefits.
- Handle objections.
- Balance telephone and in-store customers.
- Promote store services and features.
- Promote upgraded products.
- Solve customer problems.
- Close sales.

APS3 Demonstrate knowledge of vehicle systems.

- Identify major components, component function, and related items and provide basic use and installation instructions for:
  - engine mechanical parts.
  - cooling systems.
  - fuel systems.
  - ignition systems.
  - exhaust systems.
  - emissions control systems.
  - manual transmissions/transaxles.
  - automatic transmissions/transaxles.
  - drive train components, including drivshafts, half shafts, U-joints, CV joints, and four-wheel-drive systems.
- Identify fastener thread types (SAE, USS, and metric), fastener thread diameter and pitch, fastener type, and fastener grade.
- Identify fitting type and size.
- Identify body repair and refinishing materials and supplies.
- Identify hose and tubing types and applications.
- Determine hose and tubing size.
- Recommend proper application and usage of chemicals/appearance products and vision and safety products.

APS4 Demonstrate techniques for vehicle identification.

- Locate and utilize vehicle ID number (VIN).
- Locate production date.
- Locate and utilize component identification data.
- Identify body styles.
- Utilize additional reference material for interpreting component information.
- Locate paint code(s).

APS5 Demonstrate cataloging skills.

- Locate proper catalog, and identify needed part(s).
- Obtain and interpret additional information (footnote, illustration, etc.).
- Utilize additional reference material (technical bulletins, interchange list, supplements, etc.)
- Identify catalog terminology and abbreviations.
- Locate index and table of contents.
- Perform catalog maintenance.
APS6  Perform inventory management skills.

- Report lost sales.
- Verify incoming and outgoing merchandise.
- Perform physical inventory.
- Report inventory discrepancies.
- Perform stock rotation.
- Handle special orders.
- Perform proper core handling (i.e., accepting or declining cores, storage, and return).
- Handle warranty and new returns.
- Determine proper selling unit (each, pair, case, etc.) increment.
- Handle return of broken kits, special order parts, and exchange parts.
- Account for store use items.

APS7  Demonstrate merchandising proficiency.

- Understand display strategy.
- Display pricing.
- Inspect and maintain shelf quantities and condition.
- Identify impulse, seasonal, and related items.
- Utilize sales aids.
Appendix B: Related Academic Standards

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 and paraphrase, compare and contrast, cause and effect)
R5 Evaluate and Extend Meaning (fact and 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)
Appendix C: 21st Century Skills

CS1 Global Awareness
- Using 21st century skills to understand and address global issues
- 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
- Promoting the study of non-English language as a tool for understanding other nations and cultures

CS2 Financial, Economic, and Business Literacy
- Knowing how to make appropriate personal economic choices
- Understanding the role of the economy and the role of business in the economy
- Applying appropriate 21st century skills to function as a productive contributor within an organizational setting
- Integrating oneself within and adapting continually to the nation’s evolving economic and business environment

CS3 Civic Literacy
- Being an informed citizen to participate effectively in government
- Exercising the rights and obligations of citizenship at local, state, national, and global levels
- Understanding the local and global implications of civic decisions
- Applying 21st century skills to make intelligent choices as a citizen

CS4 Information and Communication Skills
- Information and media literacy skills: Analyzing, accessing, managing, integrating, evaluating, and creating information in a variety of forms and media; understanding the role of media in society
- Communication skills: Understanding, managing, and creating effective oral, written, and multimedia communication in a variety of forms and contexts

CS5 Thinking and Problem-Solving Skills
- Critical thinking and systems thinking: Exercising sound reasoning in understanding and making complex choices, understanding the interconnections among systems
- Problem identification, formulation, and solution: Ability to frame, analyze, and solve problems
- Creativity and intellectual curiosity: Developing, implementing, and communicating new ideas to others, staying open and responsive to new and diverse perspectives

CS6 Interpersonal and Self-Directional Skills
- Interpersonal and collaborative skills: Demonstrating teamwork and leadership, adapting to varied roles and responsibilities, working productively with others, exercising empathy, respecting diverse perspectives
- Self-direction: Monitoring one’s own understanding and learning needs, locating appropriate resources, transferring learning from one domain to another
- Accountability and adaptability: Exercising personal responsibility and flexibility in personal, workplace, and community contexts; setting and meeting high standards and goals for oneself and others; tolerating ambiguity

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- Social responsibility: Acting responsibly with the interests of the larger community in mind; demonstrating ethical behavior in personal, workplace, and community contexts