PLANNED INSTRUCTION

A PLANNED COURSE FOR:

Automotive Occupations
Levels 1, 2, 3

Instructor:
Justin Ryan
_____

Grade Level:
10, 11, 12

Date of Board Approval: _____2019_____

Title of Planned Instruction: Auto Mechanics

Subject Area: CTE

Course Description: Automotive Technology Level 1 is the first part of a three-year training program. Students will attend this program for three class periods per day. This level focuses on the development of safe work habits and career exploration in the Automotive Field. Students will participate in classroom and shop activities designed to give them the basic skills for success as a technician. Some of the topics covered will include safety, environmental concerns, career goal setting and development of a job seeking portfolio.

The students will also develop the practical skills necessary to become a technician. The student shall perform these tasks in the shop area in a competency-based format. The student shall follow a task list approved by and amended annually by an occupational advisory committee. To master each task the student will be given a variety of learning styles including but not limited to direct instruction, modalized lessons, group and independent projects, and research using printed, as well as computer based references. The standard for instruction on each task will be occupational competency. That is, the student must complete a task to the performance standards recognized by the industry. Students will be permitted to practice a task and repeat it until they reach a competent level. This may result in a redundancy of tasks listed.

Evaluation of a student shall be an ongoing process throughout the program. Oral questioning, written evaluation of core knowledge and performance testing of skills will be used to assist the students toward their career objectives. Assessments will be used to evaluate formative phases to record progress toward competency of a task. Final evaluations of each task will include measures of the summative knowledge gained by the student. Students who show difficulty in the mastery of a task may receive diagnostic evaluations to correct or modify issues that impair success. Several potential career paths have been identified to provide opportunity for all students.

Automotive Technology Levels 2 and 3 is the second stage of our training program.

Students will attend this program for three class periods per day. This level focuses on the refining and expanding the student's knowledge base and skills in the Automotive Field. Students will participate in classroom and shop activities designed to give them the job ready skills for success as a technician. Some of the topics covered will include seeking out information and resources for post-secondary education, as well as transition skills for entering the workplace.

In the third level the emphasis will be focused on development of advanced practical skills necessary to become a technician as well as certifications that will make the student a marketable commodity. The student shall perform these advanced tasks in the shop area with an emphasis on self-evaluations, critical thinking skills, and information analysis to reach logic conclusions and self-sufficiency in the workplace. These are again presented in a competency-based format. The student shall follow a task list approved by and amended annually by an occupational advisory committee. To master each task the student will be given a variety of learning styles including but not limited to direct instruction, modularized lessons, group and independent projects, and research using printed, as well as computer based references. The standard for instruction on each task will be occupational competency. That is, the student must complete a task to the performance standards recognized by the industry. Students will be permitted to practice a task and repeat it until they reach a competent level. This may result in a redundancy of tasks listed.

Evaluation of a student shall be an ongoing process throughout the program. Oral questioning, written evaluation of core knowledge and performance testing of skills will be used to assist the students toward their career objectives. Assessments will be used to evaluate formative phases to record progress toward competency of a task. Final evaluations of each task will include measures of the summative knowledge gained by the student. Students who show difficulty in the mastery of a task may receive diagnostic evaluations to correct or modify issues that impair success. Several potential career paths have been identified to provide opportunity for all students.

Prerequisites: None

Time/Credit for the Course: Full year, 3 Periods per day, 3 Credits

Curriculum Writing Committee: Justin Ryan

CURRICULUM MAP

Level I- Overview with time range in days: 180 days

Level I- Goals:
Understanding of:

- Orientation
- Safety
- Tools and Fasteners
- Industry Certifications
- Suspension and Steering
- Brakes (Introduction)
- Engine Performance (Introduction)
- Employment and Leadership Skills

Level II- Overview with range in days: 180 days
Level II- Goals
Understanding of:

- Orientation
- Safety
- Industry Certifications
- Brakes Diagnostics
- Resurfacing Rotors and Drums
- Use of Brake Lathe
- Brake Bleeding Procedures
- Use of Scantool
- Fuel Systems
- Emissions
- Use of Multimeter
- Wiring and soldering
- A/C diagnostics- recharging
- Employment and Leadership

Level III- Overview with range in days- 180 days
Level III- Goals:
Understanding of:

- Orientation
- Safety
- Tools/Fasteners
- Industry Certifications
- Suspension and Steering
- Brakes
- Electronic Systems

Brakes (Continuation)
Engine Performance
HVAC
Drive Trains
Employment and Leadership Skills

Delaware Valley High School-CTE
Automotive Technology Units of Study

Level Unit Name Number
1 ORIENTATION 100-1
1 SAFETY 200-1
1 TOOLS/FASTENERS 300-1
1 CERTIFICATIONS 400-1
1 SUSPENSION AND STEERING 500-1
1 BRAKES 600-1
1 ENGINE PERFORMANCE 800-1
1 EMPLOYMENT & LEADERSHIP SKILLS (Skills USA -PDP) 1100-1

Levels listed as 1, 2, or 3, indicates the task list for this unit is spread out between the three levels of the program. The simplest tasks are intended to be completed during Level 1 of the program. Intermediate tasks are the focus during Level 2 and the most difficult tasks during Level 3. Due to the competency based format of this program an advanced student may work ahead. Likewise, a student with an IEP with specially designed instruction may take multiple years to complete the Level 1 tasks. In this way, we are attempting to make sure a student reaches mastery of a task before moving on to more complex concepts.

Unit Name: EMPLOYMENT & LEADERSHIP SKILLS (Skills USA -PDP)

Unit Number: 1100-1

Unit Description/Objectives:

The student will gain job seeking, employment and leadership skills through daily implementation of the task activities list below in conjunction with regular class activities.

Students are encouraged to join SkillsUSA, however membership is not mandatory. Student who join this club can receive credit for these tasks through their club participation.

Tasks:

LT1100 - EMPLOYMENT & LEADERSHIP SKILLS
LT1101 - Complete a self-assessment checklist and identify individual learning styles.
LT1102 - Discover self-motivation and establish short term goals.
LT1103 - Determine individual time-management skills.
LT1104 - Define future occupations and opportunities within the trade area.
LT1105 - Develop an awareness of cultural diversity.
LT1106 - Develop an awareness of equity issues.
LT1107 - Identify components of a professional portfolio.
LT1108 - Develop personal financial skills.
LT1109 - Investigate a career in your field.
LT1110 - Measure and modify short term goals.

LT1111 - Identify stress sources.
LT1112 - Demonstrate awareness of governmental agencies, professional organizations and trade unions.
LT1113 - Observe and critique a business meeting and demonstrate business meeting skills.
LT1114 - Demonstrate social etiquette.
LT1115 - Identify customer expectations.
LT1122 - Serve as a volunteer in your community.
LT1125 - Understand and demonstrate customer service in the workplace.
LT1128 - Perform a skill demonstration for the class.
LT1131 - Demonstrate effective communication with others.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERATURE

Supporting Anchor/Standards:

CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
CC.3.5.11-12.C Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
CC.3.5.11-12.E Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
CC.3.5.11-12.H Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grades level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
CC.1.5.11-12.B Integrate multiple sources of information presented in diverse formats and media (e.g. visually, quantitative, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
CC.1.5.11-12.D Present information, findings, and supporting evidence, conveying a clear and distinct perspective; organization, development, substance, and style are appropriate to purpose, audience, and task.
CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.

Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:

CC.2.4.3.A.3 Solve problems involving money using a combination of coins and bills.
CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real

world or mathematical problems.
CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.
CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education, graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.
13.1.11.E Justify the selection of a career.
13.1.11.F Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: associate degree, baccalaureate degree, certificate/licensure, entrepreneurship, immediate part/full time employment, industry training, military training, professional degree, registered apprenticeship, tech prep and Vocational Rehabilitation Centers.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.
13.2.11.A Apply effective speaking and listening skills used in a job interview.
13.2.11.B Apply research skills in searching for a job: Career Links, Internet (i.e. O-NET), Networking, Newspapers, Professional associations and resource books (that is Occupational Outlook Handbook, PA Career Guide).
13.2.11.C Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation following an interview, letter of introduction, postsecondary education/training applications, request for letter of recommendation, and resume.
13.2.11.D Analyze, revise, and apply an individualized career portfolio to chosen career path.
13.2.11.E Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: commitment, communication, dependability, health/safety, laws and regulations (that is Americans with Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets), personal initiative, Self-Advocacy, scheduling/time management, team building, technical literacy and technology.

13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
13.3.11.B Evaluate team member roles to describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating and summarizing
13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.
13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.
13.3.11.E Evaluate time management strategies and their application to both personal and work situations.
13.3.11.F Evaluate strategies for career retention and advancement in response to the changing global workplace.
13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.
13.4.11.A Analyze entrepreneurship as it relates to personal career goals and corporate opportunities
13.4.11.B Analyze entrepreneurship as it relates to personal character traits.
13.4.11.C Develop a business plan for an entrepreneurial concept of personal interest and identify available resources, such as, but not limited to: community based organizations (that is chambers of commerce, trade/technical associations, industrial resource centers). Financial Institutions, School-based Career Centers, Small Business Administration Services (that is SCORE, Small Business Development Centers, Entrepreneurial Development Centers, venture capital.

Instructional Activities:

- K-W-L with a twist
- Look for unknown words
- Picture questioning
- Picture story
- Read the questions at the end of the chapter
- Read the summary information first
- Scan the lines
- Vocabulary by accident
- Checking for Comparative Knowledge
- Cornell Notes
- Directed reading or learning questions
- Read, listen, share, and question in a small group
- Naming the symbols and numbers
- Oral reading
- Questioning while reading
- Silent Timed Reading
- Small Group Oral Reading/Questioning
- Think aloud
- Using graphic organizers for notes
- Checklist of facts
- Develop tomorrow's quiz
- Demonstrate what was learned
- Question Still Unanswered
- Exit slips of learning
- Exit slips of questions

- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:

• Safety glasses must be worn in the Auto Shop.
• A work uniform must be worm at all times in the Auto Shop.
• Work shoes must be worn at all times in the Auto Shop.
• Students will follow the safety rules as they apply to each tool or piece of equipment.
• Students will conduct themselves in a safe and professional manner.

Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips/Time Cards
• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION
• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5

• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:

• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Smart Board - Interactive
• Power Point Presentation-Text related.
• SkillsUSA Pennsylvania - http://www.skillsusapennsylvania.com/
• SkillsUSA National - http://www.skillsusa.org/index.shtml

Delaware Valley School District

Unit Name: ORIENTATION

Unit Number: 100-1

Unit Description/Objectives:

The students will learn the following concepts: career opportunities and expectations for safety, hygiene, customer service and shop management skills.

Tasks:

PA101 - Explain and follow all lab rules.
PA102 - Participate in basic shop management.
PA103 - Participate in parts ordering.
PA104 - Demonstrate auto shop safety and hygiene.
PA105 - Demonstrate the use of service information.
PA106 - Demonstrate proper telephone courtesy.
PA107 - Identify vehicle by: sight, V.I.N. and/or ID tag.
PA108 - Identify career paths within the career and technical education program.

Standards / Assessment Anchors

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☐ LITERACY

Supporting Anchor/Standards:

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Focus Anchor/Standard #2:

☐ MATH/SCIENCE

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☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
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13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.
13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.
13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.
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Instructional Activities:

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- Develop tomorrow's quiz
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- Question Still Unanswered
- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:

Student Safety Pledge:

I _____ understand that the automotive shop is an
Print Name on Line

inherently dangerous place to work. I pledge to:

1. Follow all school regulations listed in the student handbook at all times.
2. Follow all safety regulations as they pertain to the shop and its equipment at all times.
3. I will wear work clothes as specified, work shoes, and safety glasses at all times.
4. Avoid horseplay or other distracting behavior.
5. Perform all work in a careful and safe manner.
6. Receive instruction and permission before using any equipment.
7. Never work in the shop without the instructor present.
8. Pass a general safety test, as well as demonstrate the safe use of all equipment.

I agree to the above terms of the safety pledge, and understand that failure to live up to the terms above is grounds for discipline, as spelled out in the student handbook. Repeat offenses may result in removal from the program. Failure to follow these rules may result in serious injury or death. By signing below, I agree to all the terms above.

Assessment:

THEORY EVALUATION

• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Class oral responses
• Business and Industry Credentialing Tests

• Exit Slips/Time Cards
• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION

• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
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• Teacher checking and scoring as each part of an activity is being done correctly
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• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
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SPECIAL NEEDS ASSESSMENT ADAPTATIONS

• Study guides provided prior to tests
• Use of a scribe
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• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:

• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Smart Board - Interactive
• Power Point Presentation-Text related.
• Micrometers, Calipers, Dial Indicators
• Assorted Fasteners
• Assorted Hand and Power Tools

Unit Name: SAFETY

Unit Number: 200-1

Unit Description/Objectives:

The student will demonstrate knowledge of safety and implement general, shop and equipment specific safety rules. Students will also identify the location MSDS forms, fire extinguishers and first aid equipment. The knowledge component shall be evidenced by passing SP-2 certification.

Tasks:

PA201 - Identify and follow all safety rules.
PA202 - Demonstrate the ability to secure vehicles on jack stands and hydraulic lifts.
PA203 - Demonstrate the ability to safely set-up/shut-down oxygen acetylene welding equipment.
PA204 - Identify chemical safety, 'Right-To-Know Laws' and Materials Safety Data Sheets (MSDS).
PA205 - Identify and demonstrate the safe use of hand tools.
PA206 - Identify and demonstrate the safe use of power tools.
PA207 - Identify and demonstrate the safe use of protective clothing and equipment.
PA208 - Identify and demonstrate the safe use of fire protection equipment.
PA209 - Identify and demonstrate the safe use of shop equipment.
PA206 - Identify and demonstrate the safe use of power tools.
PA207 - Identify and demonstrate the safe use of protective clothing and equipment.
PA208 - Identify and demonstrate the safe use of fire protection equipment.
PA209 - Identify and demonstrate the safe use of shop equipment.
PA210 - Explain EPA and OSHA regulations.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

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CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.
Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:
5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
10.1.12.B Evaluate factors that impact the body systems and apply protective/preventive strategies. •fitness level •environment (e.g., pollutants, available health care) •health status (e.g., physical, mental, social) •nutrition.
10.2.12.E Analyze the interrelationships between environmental factors and community health: i.e., public health policies and laws/health promotion and disease prevention, individual choices/maintenance of environment, and recreational opportunities/health status.
10.3.12.A Assess the personal and legal consequences of unsafe practices in the home, school or community: i.e., loss of personal freedom, personal injury, loss of income, impact on others and loss of motor vehicle operator's license.
4.2.12.A Examine environmental laws related to land use management and its impact on the water quality and flow within a watershed.
4.5.12.C Analyze the costs and benefits of means to control pollution. •Analyze the role of technology in the reduction of pollution. •Research and analyze the local, state, and national laws that deal with point and non-point source pollution. •Explain mitigation and its role in maintaining environmental health.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.
13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.
13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.
13.3.11.G Evaluate the impact of lifelong learning on career retention and

advancement.
13.4.11.A Analyze entrepreneurship as it relates to personal career goals and corporate opportunities
13.4.11.B Analyze entrepreneurship as it relates to personal character traits.

Instructional Activities:

- K-W-L with a twist
- Look for unknown words
- Picture questioning
- Picture story
- Read the questions at the end of the chapter
- Read the summary information first
- Scan the lines
- Vocabulary by accident
- Checking for Comparative Knowledge
- Cornell Notes
- Directed reading or learning questions
- Read, listen, share, and question in a small group
- Naming the symbols and numbers
- Oral reading
- Questioning while reading
- Silent Timed Reading
- Small Group Oral Reading/Questioning
- Think aloud
- Using graphic organizers for notes
- Checklist of facts
- Develop tomorrow's quiz
- Demonstrate what was learned
- Question Still Unanswered
- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:

Safety Pledge - Distribute and have students and parent complete and return.
Review Personal Safety Rules & clothing requirements.
Review Shop Safety Rules.
Review Equipment Specific Safety Rules.
Review MSDS/ Right to Know.
Review Fire Extinguishers and types of fires.
Review first aid procedures.

Assessment:

THEORY EVALUATION

- Traditional Tests – multiple choice, matching, true/false, short answer completion
- Traditional Quizzes - multiple choice, matching, true/false, short answer completion
- Graded Homework
- Graded Math practice assignments
- Graded Reading assignments
- Notebook checks
- Class oral responses
- Business and Industry Credentialing Tests
- Exit Slips/Time Cards

• Student Hand Held Response Systems
• Textbook Computer Generated Tests
SKILL EVALUATION
• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.
SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:
• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Smart Board - Interactive
• Power Point Presentation-Text related.
• S/P-2 Web Based Safety & Environmental Protection Course

Unit Name: TOOLS/FASTENERS

Unit Number: 300-1

Unit Description/Objectives:
The student will identify and describe the use of tools and fasteners, as well as the repair of damaged fasteners.

Tasks:
PA301 - Identify and use fasteners and bolts.
PA302 - Demonstrate the ability to correctly drill and use re-threading tools.
PA303 - Demonstrate the ability to correctly read and interpret precision automotive measuring tools.
PA304 - Demonstrate the ability to correctly use automotive tools.

PA305 - Perform common fastener and thread repairs, to include remove broken bolt, restore internal and external threads, and repair internal threads with a threaded insert.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

CC.3.5.11-12.C Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.

CC.3.5.11-12.E Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.

CC.3.5.11-12.H Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grades level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

CC.1.5.11-12.B Integrate multiple sources of information presented in diverse formats and media (e.g. visually, quantitative, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.

CC.1.5.11-12.D Present information, findings, and supporting evidence, conveying a clear and distinct perspective; organization, development, substance, and style are appropriate to purpose, audience, and task.

CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.

CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.

Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:

CC.2.1.5.C.1 Use the understanding of equivalency to add and subtract fractions.

CC.2.1.8.E.1 Distinguish between rational and irrational numbers using their properties.

CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.

CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.

CC.2.1.HS.F.3 Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays.

CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the

solution of multi-step problems.
CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
Connecting Anchor/Standard:
☐ CAREER EDUCATION & WORK
Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.
13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.
13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.
13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.
13.4.11.A Analyze entrepreneurship as it relates to personal career goals and corporate opportunities
13.4.11.B Analyze entrepreneurship as it relates to personal character traits.
Instructional Activities:
- K-W-L with a twist
- Look for unknown words
- Picture questioning
- Picture story
- Read the questions at the end of the chapter
- Read the summary information first
- Scan the lines
- Vocabulary by accident
- Checking for Comparative Knowledge
- Cornell Notes
- Directed reading or learning questions
- Read, listen, share, and question in a small group
- Naming the symbols and numbers
- Oral reading
- Questioning while reading
- Silent Timed Reading
- Small Group Oral Reading/Questioning
- Think aloud
- Using graphic organizers for notes
- Checklist of facts
- Develop tomorrow's quiz
- Demonstrate what was learned
- Question Still Unanswered
- Exit slips of learning

- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:

• Safety glasses must be worn in the Auto Shop.
• A work uniform must be worm at all times in the Auto Shop.
• Work shoes must be worn at all times in the Auto Shop.
• Students will follow the safety rules as they apply to each tool or piece of equipment.
• Students will conduct themselves in a safety and professional manner.

Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips/Time Cards
• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION
• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)

• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:
• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Smart Board - Interactive
• Power Point Presentation-Text related.

Unit Name: CERTIFICATIONS

Unit Number: 400-1

Unit Description/Objectives:
The student will be given the opportunity to receive the following industry certifications. Achieving certification is dependent upon the student's ability to meet the criteria set up by the issuing corporation, governmental agency or bureau.

Tasks:
404 - S/P-2 Safety & Environmental Protection Certification
405 - Pro-Cut Factory Certification - Brake Lathe

Standards / Assessment Anchors
Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:
CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
CC.3.5.11-12.C Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
CC.3.5.11-12.E Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
CC.3.5.11-12.H Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grades level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
CC.1.5.11-12.B Integrate multiple sources of information presented in diverse formats and media (e.g. visually, quantitative, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
CC.1.5.11-12.D Present information, findings, and supporting evidence, conveying a clear and distinct perspective; organization, development,

substance, and style are appropriate to purpose, audience, and task.
CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.
Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:
F-IF.CS Understand the concept of a function and use function notation.
N-RN.CS Use properties of rational and irrational numbers.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.
13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.
13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.
13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.
13.4.11.A Analyze entrepreneurship as it relates to personal career goals and corporate opportunities
13.4.11.B Analyze entrepreneurship as it relates to personal character traits.

Instructional Activities:

- K-W-L with a twist
- Look for unknown words
- Picture questioning
- Picture story
- Read the questions at the end of the chapter
- Read the summary information first
- Scan the lines
- Vocabulary by accident
- Checking for Comparative Knowledge
- Cornell Notes
- Directed reading or learning questions
- Read, listen, share, and question in a small group
- Naming the symbols and numbers
- Oral reading
- Questioning while reading
- Silent Timed Reading
- Small Group Oral Reading/Questioning
- Think aloud

- Using graphic organizers for notes
- Checklist of facts
- Develop tomorrow's quiz
- Demonstrate what was learned
- Question Still Unanswered
- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:

• Safety glasses must be worn in the Auto Shop.
• A work uniform must be worm at all times in the Auto Shop.
• Work shoes must be worn at all times in the Auto Shop.
• Students will follow the safety rules as they apply to each tool or piece of equipment.
• Students will conduct themselves in a safe and professional manner.

Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips/Time Cards
• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION
• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Evaluate the student’s ability to work within a team when teamwork is necessary.
• Evaluate the student’s responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students’ progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

Resources/Equipment:
• Smart Board - Interactive
• Power Point Presentation-Text related.
• PA DOT Website
• MACS - Mobile A/C Service Website

Unit Name: SUSPENSION AND STEERING

Unit Number: 500-1

Unit Description/Objectives:
The student will demonstrate a working knowledge of suspension and steering systems, the repair and maintenance of the components and four-wheel alignment.

Tasks:
PA501 - Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction.
PA502 - Identify and interpret suspension and steering system concerns; determine necessary action.
PA503 - Research applicable vehicle and service information, such as suspension and steering system operation, vehicle service history, service precautions, and technical service bulletins.
PA504 - Locate and interpret vehicle and major component identification numbers.
PA507 - Remove and replace rack and pinion steering gear; inspect mounting bushings and brackets.
PA508 - Inspect and replace rack and pinion steering gear inner tie rod ends (sockets) and bellows boots.
PA509 - Determine proper power steering fluid type; inspect fluid level and condition.
PA510 - Flush, fill, and bleed power steering system.
PA511 - Diagnose power steering fluid leakage; determine necessary action.
PA512 - Remove, inspect, replace, and adjust power steering pump belt.
PA513 - Remove and reinstall power steering pump.
PA517 - Inspect, replace, and adjust tie rod ends (sockets), tie rod sleeves, and clamps.
PA526 - Remove, inspect, and install strut cartridge or assembly, strut coil spring, insulators (silencers), and upper strut bearing mount.
PA527 - Inspect, remove, and replace shock absorbers.
PA528 - Remove, inspect, and service or replace front and rear wheel bearings.
PA529 - Lubricate suspension and steering systems.
PA530 - Perform pre-alignment inspection and measure vehicle ride height; perform necessary action.
PA531 - Prepare vehicle for wheel alignment on the alignment machine; perform four wheel alignment by checking and adjusting front and rear wheel caster, camber; and toe as required; center steering wheel.
PA536 - Inspect tire condition; identify tire wear patterns; check and adjust air pressure; determine necessary action.
PA537 - Diagnose wheel/tire vibration, shimmy, and noise; determine necessary action.
PA538 - Rotate tires according to manufacturer's recommendations.
PA539 - Measure wheel, tire, axle flange, and hub runout; determine necessary action.
PA540 - Diagnose tire pull problems; determine necessary action.
PA541 - Dismount, inspect, and remount tire on wheel; Balance wheel and tire assembly (static and dynamic).

PA542 - Dismount, inspect, and remount tire on wheel equipped with tire pressure monitoring system sensor.
PA543 - Reinstall wheel; torque lug nuts.
PA544 - Inspect tire and wheel assembly for air loss; perform necessary action.
PA545 - Repair tire using internal patch.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
CC.3.5.11-12.C Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
CC.3.5.11-12.E Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
CC.3.5.11-12.H Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grades level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
CC.1.5.11-12.B Integrate multiple sources of information presented in diverse formats and media (e.g. visually, quantitative, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
CC.1.5.11-12.D Present information, findings, and supporting evidence, conveying a clear and distinct perspective; organization, development, substance, and style are appropriate to purpose, audience, and task.
CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.

Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:

CC.2.4.3.A.3 Solve problems involving money using a combination of coins and bills.
CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.
CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
5.MD.3 Recognize volume as an attribute of solid figures and understand

concepts of volume measurement.
CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
4.G.CS Draw and identify lines and angles, and classify shapes by properties of their lines and angles.
4.MD.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum f the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.
4.MD.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
4.MD.5a An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a 'one- degree angle', and can be used to measure angles.
G-CO.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.
13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.
13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.
13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.
13.4.11.A Analyze entrepreneurship as it relates to personal career goals and corporate opportunities
13.4.11.B Analyze entrepreneurship as it relates to personal character traits.

Instructional Activities:
- K-W-L with a twist
- Look for unknown words
- Picture questioning
- Picture story
- Read the questions at the end of the chapter
- Read the summary information first
- Scan the lines

- Vocabulary by accident
- Checking for Comparative Knowledge
- Cornell Notes
- Directed reading or learning questions
- Read, listen, share, and question in a small group
- Naming the symbols and numbers
- Oral reading
- Questioning while reading
- Silent Timed Reading
- Small Group Oral Reading/Questioning
- Think aloud
- Using graphic organizers for notes
- Checklist of facts
- Develop tomorrow's quiz
- Demonstrate what was learned
- Question Still Unanswered
- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:

• Safety glasses must be worn in the Auto Shop.
• A work uniform must be worm at all times in the Auto Shop.
• Work shoes must be worn at all times in the Auto Shop.
• Students will follow the safety rules as they apply to each tool or piece of equipment.
• Students will conduct themselves in a safe and professional manner.

Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips/Time Cards
• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION
• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected

• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:
• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Smart Board - Interactive
• Power Point Presentation-Text related.

Unit Name: BRAKES

Unit Number: 600-1

Unit Description/Objectives:
The student will demonstrate the knowledge of brake systems, ABS, TCC Systems and the repair and maintenance of the components.

Tasks:
PA601 - Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction.
PA602 - Identify and interpret brake system concern; determine necessary action.
PA603 - Research applicable vehicle and service information, such as brake system operation, vehicle service history, service precautions, and technical service bulletins.
PA604 - Locate and interpret vehicle and major component identification numbers.
PA608 - Inspect brake lines, flexible hoses, and fittings for leaks, dents, kinks, rust, cracks, bulging or wear; tighten loose fittings and supports; determine necessary action.
PA609 - Replace brake lines, hoses, fittings, and supports.
PA610 - Fabricate brake lines using proper material and flaring procedures (double flare and ISO types).
PA611 - Select, handle, store, and fill brake fluids to proper level.
PA612 - Inspect, test, and/or replace components of brake warning light system.
PA 613 - Bleed and/or flush brake system.
PA615 - Remove, clean, inspect, and measure brake drums; determine necessary action.
PA616 - Refinish brake drum; measure final drum diameter.

PA619 - Pre-adjust brake shoes and parking brake; install brake drums or drum/hub assemblies and wheel bearings.
PA620 - Install wheel, torque lug nuts, and make final checks and adjustments.
PA622 - Remove caliper assembly; inspect for leaks and damage to caliper housing; determine necessary action.
PA623 - Clean and inspect caliper mounting and slides/pins for operation, wear, and damage; determine necessary action.
PA624 - Reassemble, lubricate, and reinstall caliper, pads, and related hardware; seat pads, and inspect for leaks.
PA625 - Clean, inspect, and measure rotor thickness, lateral runout, and thickness variation; determine necessary action.
PA626 - Remove and reinstall rotor.
PA627 - Refinish rotor on vehicle; measure final rotor thickness.
PA628 - Refinish rotor off vehicle; measure final rotor thickness.
PA629 - Install wheel, torque lug nuts, and make final checks and adjustments.
PA630 - Check brake pad wear indicator system operation; determine necessary action.
PA631 - Test pedal free travel; check power assist operation.
PA633 - Remove, clean, inspect, repack, and install wheel bearings and replace seals; install hub and adjust bearings.
PA637 - Replace wheel bearing and race.
PA638 - Inspect and replace wheel studs.
PA639 - Remove and reinstall sealed wheel bearing assembly.
PA640 - Identify and inspect electronic brake control system components; determine necessary action.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
CC.3.5.11-12.C Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
CC.3.5.11-12.E Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
CC.3.5.11-12.H Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grades level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
CC.1.5.11-12.B Integrate multiple sources of information presented in diverse

formats and media (e.g. visually, quantitative, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
CC.1.5.11-12.D Present information, findings, and supporting evidence, conveying a clear and distinct perspective; organization, development, substance, and style are appropriate to purpose, audience, and task.
CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.
Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:
CC.2.4.3.A.3 Solve problems involving money using a combination of coins and bills.
CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.
CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.
13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.
13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.
13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.
13.4.11.A Analyze entrepreneurship as it relates to personal career goals and corporate opportunities
13.4.11.B Analyze entrepreneurship as it relates to personal character traits.

Instructional Activities:
- K-W-L with a twist
- Look for unknown words
- Picture questioning

- Picture story
- Read the questions at the end of the chapter
- Read the summary information first
- Scan the lines
- Vocabulary by accident
- Checking for Comparative Knowledge
- Cornell Notes
- Directed reading or learning questions
- Read, listen, share, and question in a small group
- Naming the symbols and numbers
- Oral reading
- Questioning while reading
- Silent Timed Reading
- Small Group Oral Reading/Questioning
- Think aloud
- Using graphic organizers for notes
- Checklist of facts
- Develop tomorrow's quiz
- Demonstrate what was learned
- Question Still Unanswered
- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:

• Safety glasses must be worn in the Auto Shop.
• A work uniform must be worm at all times in the Auto Shop.
• Work shoes must be worn at all times in the Auto Shop.
• Students will follow the safety rules as they apply to each tool or piece of equipment.
• Students will conduct themselves in a safe and professional manner.

Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips/Time Cards
• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION
• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for

particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.
SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:
• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Smart Board - Interactive
• Power Point Presentation-Text related.

Unit Name: ENGINE PERFORMANCE

Unit Number: 800-1

Unit Description/Objectives:
The student will understand the systems and the principles necessary for the repair and maintenance of engine performance related issues. This shall include fuel, ignition and computer related systems.

Tasks:
PA801 - Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction.
PA802 - Identify and interpret engine performance concern; determine necessary action.
PA803 - Research applicable vehicle and service information, such as engine management system operation, vehicle service history, service precautions, and technical service bulletins.
PA804 - Locate and interpret vehicle and major component identification numbers.
PA805 - Inspect engine assembly for fuel, oil, coolant, and other leaks; determine necessary action.
PA810 - Perform cylinder cranking and running compression tests; determine necessary action.
PA811 - Perform cylinder leakage test; determine necessary action.

PA813 - Verify engine operating temperature; determine necessary action.
PA813 - Verify engine operating temperature; determine necessary action.
PA814 - Perform cooling system pressure tests; check coolant condition; inspect and test radiator, pressure cap, coolant recovery tank, and hoses; perform necessary action.
PA827 - Replace fuel filters.
PA831 - Inspect the integrity of the exhaust manifold, exhaust pipes, muffler(s), catalytic converter(s), resonator(s), tail pipe(s), and heat shield(s); perform necessary action.
PA844 - Remove and replace thermostat and gasket/seal.
PA846 - Perform engine oil and filter change.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
CC.3.5.11-12.C Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
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CC.3.5.11-12.H Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grades level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
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CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.

Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:

CC.2.4.3.A.3 Solve problems involving money using a combination of coins and bills.
CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real

world or mathematical problems.
CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.
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5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
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13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.
13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
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13.4.11.A Analyze entrepreneurship as it relates to personal career goals and corporate opportunities
13.4.11.B Analyze entrepreneurship as it relates to personal character traits.

Instructional Activities:
- K-W-L with a twist
- Look for unknown words
- Picture questioning
- Picture story
- Read the questions at the end of the chapter
- Read the summary information first
- Scan the lines
- Vocabulary by accident
- Checking for Comparative Knowledge
- Cornell Notes
- Directed reading or learning questions
- Read, listen, share, and question in a small group
- Naming the symbols and numbers
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- Questioning while reading
- Silent Timed Reading
- Small Group Oral Reading/Questioning
- Think aloud

- Using graphic organizers for notes
- Checklist of facts
- Develop tomorrow's quiz
- Demonstrate what was learned
- Question Still Unanswered
- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

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Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
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• Graded Reading assignments
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SKILL EVALUATION
• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
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• Peer evaluation of individual student
• Evaluate the student’s ability to work within a team when teamwork is necessary.
• Evaluate the student’s responsibility to complete work logs as expected.
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• Evaluate if students work without hindering other students’ progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:
• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Auto Electricity & Electronics Technology 1st Edition - Duffy ISBN#1-56637-441-3
• Smart Board - Interactive
• Power Point Presentation-Text related.

Unit Name: ORIENTATION

Unit Number: 100-2

Unit Description/Objectives:
The students will learn the following concepts: career opportunities and expectations for safety, hygiene, customer service and shop management skills.

Tasks:
PA101 - Explain and follow all lab rules.
PA102 - Participate in basic shop management.
PA103 - Participate in parts ordering.
PA104 - Demonstrate auto shop safety and hygiene.
PA105 - Demonstrate the use of service information.
PA106 - Demonstrate proper telephone courtesy.
PA107 - Identify vehicle by: sight, V.I.N. and/or ID tag.
PA108 - Identify career paths within the career and technical education program.

Standards / Assessment Anchors
Focus Anchor/Standard #1:
☐ LITERACY
Supporting Anchor/Standards:
CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
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science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grades level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
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CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.
Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:
CC.2.4.3.A.3 Solve problems involving money using a combination of coins and bills.
CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.
CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
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13.4.11.A Analyze entrepreneurship as it relates to personal career goals and corporate opportunities
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Instructional Activities:
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- Develop tomorrow's quiz
- Demonstrate what was learned
- Question Still Unanswered
- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:

Student Safety Pledge:

I _____ understand that the automotive shop is an
Print Name on Line

inherently dangerous place to work. I pledge to:

1. Follow all school regulations listed in the student handbook at all times.
2. Follow all safety regulations as they pertain to the shop and it's equipment at all times.
3. I will wear work clothes as specified, work shoes, and safety glasses at all times.
4. Avoid horseplay or other distracting behavior.
5. Perform all work in a careful and safe manner.
6. Receive instruction and permission before using any equipment.
7. Never work in the shop without the instructor present.
8. Pass a general safety test, as well as demonstrate the safe use of all equipment.

I agree to the above terms of the safety pledge, and understand that failure to live up to the terms above is grounds for discipline, as spelled out in the student handbook. Repeat offenses may result in removal from the program. Failure to follow these rules may result in serious injury or death. By signing below I agree to all the terms above.

Assessment:

THEORY EVALUATION

• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Math practice assignments

• Graded Reading assignments
• Notebook checks
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips/Time Cards
• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION

• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
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• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
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• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS

• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:

• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Smart Board - Interactive
• Power Point Presentation-Text related.
• Micrometers, Calipers, Dial Indicators
• Assorted Fasteners
• Assorted Hand and Power Tools

Unit Name: SAFETY

Unit Number: 200-2

Unit Description/Objectives:

The student will demonstrate knowledge of safety and implement general, shop and

equipment specific safety rules. Students will also identify the location MSDS forms, fire extinguishers and first aid equipment. The knowledge component shall be evidenced by passing SP-2 certification.

Tasks:

PA201 - Identify and follow all safety rules.
PA202 - Demonstrate the ability to secure vehicles on jack stands and hydraulic lifts.
PA203 - Demonstrate the ability to safely set-up/shut-down oxygen acetylene welding equipment.
PA204 - Identify chemical safety, 'Right-To-Know Laws' and Materials Safety Data Sheets (MSDS).
PA205 - Identify and demonstrate the safe use of hand tools.
PA206 - Identify and demonstrate the safe use of power tools.
PA207 - Identify and demonstrate the safe use of protective clothing and equipment.
PA208 - Identify and demonstrate the safe use of fire protection equipment.
PA209 - Identify and demonstrate the safe use of shop equipment.
PA206 - Identify and demonstrate the safe use of power tools.
PA207 - Identify and demonstrate the safe use of protective clothing and equipment.
PA208 - Identify and demonstrate the safe use of fire protection equipment.
PA209 - Identify and demonstrate the safe use of shop equipment.
PA210 - Explain EPA and OSHA regulations.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
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CC.1.5.11-12.B Integrate multiple sources of information presented in diverse formats and media (e.g. visually, quantitative, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
CC.1.5.11-12.D Present information, findings, and supporting evidence, conveying a clear and distinct perspective; organization, development, substance, and style are appropriate to purpose, audience, and task.

CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.
Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:
5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
10.1.12.B Evaluate factors that impact the body systems and apply protective/preventive strategies. •fitness level •environment (e.g., pollutants, available health care) •health status (e.g., physical, mental, social) •nutrition.
10.2.12.E Analyze the interrelationships between environmental factors and community health: i.e., public health policies and laws/health promotion and disease prevention, individual choices/maintenance of environment, and recreational opportunities/health status.
10.3.12.A Assess the personal and legal consequences of unsafe practices in the home, school or community: i.e., loss of personal freedom, personal injury, loss of income, impact on others and loss of motor vehicle operator's license.
4.2.12.A Examine environmental laws related to land use management and its impact on the water quality and flow within a watershed.
4.5.12.C Analyze the costs and benefits of means to control pollution. •Analyze the role of technology in the reduction of pollution. •Research and analyze the local, state, and national laws that deal with point and non-point source pollution. •Explain mitigation and its role in maintaining environmental health.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.
13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.
13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.
13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.
13.4.11.A Analyze entrepreneurship as it relates to personal career goals and corporate opportunities
13.4.11.B Analyze entrepreneurship as it relates to personal character traits.

Instructional Activities:
- K-W-L with a twist
- Look for unknown words
- Picture questioning
- Picture story
- Read the questions at the end of the chapter
- Read the summary information first
- Scan the lines
- Vocabulary by accident
- Checking for Comparative Knowledge
- Cornell Notes
- Directed reading or learning questions
- Read, listen, share, and question in a small group
- Naming the symbols and numbers
- Oral reading
- Questioning while reading
- Silent Timed Reading
- Small Group Oral Reading/Questioning
- Think aloud
- Using graphic organizers for notes
- Checklist of facts
- Develop tomorrow's quiz
- Demonstrate what was learned
- Question Still Unanswered
- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:
Safety Pledge - Distribute and have students and parent complete and return.
Review Personal Safety Rules & clothing requirements.
Review Shop Safety Rules.
Review Equipment Specific Safety Rules.
Review MSDS/ Right to Know.
Review Fire Extinguishers and types of fires.
Review first aid procedures.

Assessment:
THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips/Time Cards
• Student Hand Held Response Systems
• Textbook Computer Generated Tests
SKILL EVALUATION
• Scores on projects when they are completed

• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:
• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Smart Board - Interactive
• Power Point Presentation-Text related.
• S/P-2 Web Based Safety & Environmental Protection Course

Unit Name: TOOLS/FASTENERS

Unit Number: 300-2

Unit Description/Objectives:
The student will identify and describe the use of tools and fasteners, as well as the repair of damaged fasteners.

Tasks:
PA301 - Identify and use fasteners and bolts.
PA302 - Demonstrate the ability to correctly drill and use re-threading tools.
PA303 - Demonstrate the ability to correctly read and interpret precision automotive measuring tools.
PA304 - Demonstrate the ability to correctly use automotive tools.
PA305 - Perform common fastener and thread repairs, to include: remove broken bolt, restore internal and external threads, and repair internal threads with a threaded insert.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
CC.3.5.11-12.C Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
CC.3.5.11-12.E Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
CC.3.5.11-12.H Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grades level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
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CC.1.5.11-12.D Present information, findings, and supporting evidence, conveying a clear and distinct perspective; organization, development, substance, and style are appropriate to purpose, audience, and task.
CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.

Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:

CC.2.1.5.C.1 Use the understanding of equivalency to add and subtract fractions.
CC.2.1.8.E.1 Distinguish between rational and irrational numbers using their properties.
CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.
CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
CC.2.1.HS.F.3 Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays.
CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.
CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:

13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
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Instructional Activities:

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- Demonstrate what was learned
- Question Still Unanswered
- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?

- Writing journals

Safety:

• Safety glasses must be worn in the Auto Shop.
• A work uniform must be worm at all times in the Auto Shop.
• Work shoes must be worn at all times in the Auto Shop.
• Students will follow the safety rules as they apply to each tool or piece of equipment.
• Students will conduct themselves in a safety and professional manner.

Assessment:

THEORY EVALUATION

• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
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SKILL EVALUATION

• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
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• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options

• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:

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• Smart Board - Interactive
• Power Point Presentation-Text related.

Unit Name: CERTIFICATIONS

Unit Number: 400-2

Unit Description/Objectives:

The student will be given the opportunity to receive the following industry certifications. Achieving certification is dependent upon the student's ability to meet the criteria set up by the issuing corporation, governmental agency or bureau.

Tasks:

PA401 - Prepare to obtain PA Safety Inspection Certification.
PA402 - Prepare to obtain EPA 609 Refrigerant Recovery, Recycling Certification.
PA403 - Prepare to obtain Emission Inspection Certification.
LT404 - S/P-2 Safety & Environmental Protection Certification
LT405 - Pro-Cut Factory Certification - Brake Lathe

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

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CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.
Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:
F-IF.CS Understand the concept of a function and use function notation.
N-RN.CS Use properties of rational and irrational numbers.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
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• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
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• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

Resources/Equipment:
• Smart Board - Interactive
• Power Point Presentation-Text related.
• PA DOT Website
• MACS - Mobile A/C Service Website

Unit Name: SUSPENSION AND STEERING

Unit Number: 500-2
Unit Description/Objectives:
The student will demonstrate a working knowledge of suspension and steering systems, the repair and maintenance of the components and four-wheel alignment.
Tasks:
PA501 - Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction.
PA502 - Identify and interpret suspension and steering system concerns; determine necessary action.
PA503 - Research applicable vehicle and service information, such as suspension and steering system operation, vehicle service history, service precautions, and technical service bulletins.
PA504 - Locate and interpret vehicle and major component identification numbers.
PA505 - Disable and enable supplemental restraint system (SRS).
PA506 - Remove and replace steering wheel; center/time supplemental restraint system (SRS) coil (clock spring).
PA507 - Remove and replace rack and pinion steering gear; inspect mounting bushings and brackets.
PA508 - Inspect and replace rack and pinion steering gear inner tie rod ends (sockets) and bellows boots.
PA509 - Determine proper power steering fluid type; inspect fluid level and condition.
PA510 - Flush, fill, and bleed power steering system.
PA511 - Diagnose power steering fluid leakage; determine necessary action.
PA512 - Remove, inspect, replace, and adjust power steering pump belt.
PA513 - Remove and reinstall power steering pump.
PA514 - Remove and reinstall press fit power steering pump pulley; check pulley and belt alignment.
PA516 - Inspect and replace pitman arm, relay (center link/intermediate) rod, idler arm and mountings, and steering linkage damper.
PA517 - Inspect, replace, and adjust tie rod ends (sockets), tie rod sleeves, and clamps.
PA518 - Inspect and test electric power assist steering.
PA519 - Remove, inspect, and install upper and lower control arms, bushings, shafts, and rebound bumpers.
PA520 - Remove, inspect and install strut rods and bushings.
PA521 - Remove, inspect, and install upper and/or lower ball joints.
PA522 - Remove, inspect, and install steering knuckle assemblies.
PA523 - Remove, inspect, and install short and long arm suspension system coil springs and spring insulators.
PA524 - Remove, inspect, install, and adjust suspension system torsion bars; inspect mounts.
PA525 - Remove, inspect, and install stabilizer bar bushings, brackets, and links.
PA526 - Remove, inspect, and install strut cartridge or assembly, strut coil spring, insulators (silencers), and upper strut bearing mount.
PA527 - Inspect, remove, and replace shock absorbers.

PA528 - Remove, inspect, and service or replace front and rear wheel bearings.
PA529 - Lubricate suspension and steering systems.
PA530 - Perform pre-alignment inspection and measure vehicle ride height; perform necessary action.
PA531 - Prepare vehicle for wheel alignment on the alignment machine; perform four wheel alignment by checking and adjusting front and rear wheel caster, camber; and toe as required; center steering wheel.
PA532 - Check SAI (steering axis inclination) and included angle; determine necessary action.
PA533 - Check rear wheel thrust angle; determine necessary action.
PA534 - Check for front wheel setback; determine necessary action.
PA535 - Check front and/or rear cradle (subframe) alignment; determine necessary action.
PA536 - Inspect tire condition; identify tire wear patterns; check and adjust air pressure; determine necessary action.
PA537 - Diagnose wheel/tire vibration, shimmy, and noise; determine necessary action.
PA538 - Rotate tires according to manufacturer's recommendations.
PA539 - Measure wheel, tire, axle flange, and hub runout; determine necessary action.
PA540 - Diagnose tire pull problems; determine necessary action.
PA541 - Dismount, inspect, and remount tire on wheel; Balance wheel and tire assembly (static and dynamic).
PA542 - Dismount, inspect, and remount tire on wheel equipped with tire pressure monitoring system sensor.
PA543 - Reinstall wheel; torque lug nuts.
PA544 - Inspect tire and wheel assembly for air loss; perform necessary action.
PA545 - Repair tire using internal patch.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

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CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.
Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:
CC.2.4.3.A.3 Solve problems involving money using a combination of coins and bills.
CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.
CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
4.G.CS Draw and identify lines and angles, and classify shapes by properties of their lines and angles.
4.MD.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum f the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.
4.MD.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
4.MD.5a An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a 'one- degree angle', and can be used to measure angles.
G-CO.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
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• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:
• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Smart Board - Interactive
• Power Point Presentation-Text related.

Unit Name: BRAKES

Unit Number: 600-2

Unit Description/Objectives:

The student will demonstrate the knowledge of brake systems, ABS, TCC Systems and the repair and maintenance of the components.

Tasks:

PA601 - Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction.
PA602 - Identify and interpret brake system concern; determine necessary action.
PA603 - Research applicable vehicle and service information, such as brake system operation, vehicle service history, service precautions, and technical service bulletins.
PA604 - Locate and interpret vehicle and major component identification numbers.
PA605 - Measure brake pedal height, travel, and free play (as applicable); determine necessary action.
PA606 - Check master cylinder for internal/external leaks and proper operation; determine necessary action.
PA607 - Remove, bench bleed, and reinstall master cylinder.
PA608 - Inspect brake lines, flexible hoses, and fittings for leaks, dents, kinks, rust, cracks, bulging or wear; tighten loose fittings and supports; determine necessary action.
PA609 - Replace brake lines, hoses, fittings, and supports.
PA610 - Fabricate brake lines using proper material and flaring procedures (double flare and ISO types).
PA611 - Select, handle, store, and fill brake fluids to proper level.
PA612 - Inspect, test, and/or replace components of brake warning light system.
PA 613 - Bleed and/or flush brake system.
PA614 - Diagnose poor stopping, noise, vibration, pulling, grabbing, dragging or pedal pulsation concerns; determine necessary action.
PA615 - Remove, clean, inspect, and measure brake drums; determine necessary action.
PA616 - Refinish brake drum; measure final drum diameter.
PA617 - Remove, clean, and inspect brake shoes, springs, pins, clips, levers, adjusters/self-adjusters, other related brake hardware, and backing support plates; lubricate and reassemble.
PA618 - Inspect and install wheel cylinders.
PA619 - Pre-adjust brake shoes and parking brake; install brake drums or drum/hub assemblies and wheel bearings.
PA620 - Install wheel, torque lug nuts, and make final checks and adjustments.
PA621 - Diagnose poor stopping, noise, vibration, pulling, grabbing, dragging or pulsation concerns; determine necessary action.
PA622 - Remove caliper assembly; inspect for leaks and damage to caliper housing; determine necessary action.
PA623 - Clean and inspect caliper mounting and slides/pins for operation, wear, and damage; determine necessary action.
PA624 - Reassemble, lubricate, and reinstall caliper, pads, and related hardware; seat pads, and inspect for leaks.
PA625 - Clean, inspect, and measure rotor thickness, lateral runout, and thickness variation; determine necessary action.
PA626 - Remove and reinstall rotor.
PA627 - Refinish rotor on vehicle; measure final rotor thickness.
PA628 - Refinish rotor off vehicle; measure final rotor thickness.
PA629 - Install wheel, torque lug nuts, and make final checks and adjustments.

PA630 - Check brake pad wear indicator system operation; determine necessary action.
PA631 - Test pedal free travel; check power assist operation.
PA632 - Check vacuum supply to vacuum-type power booster.
PA633 - Remove, clean, inspect, repack, and install wheel bearings and replace seals; install hub and adjust bearings.
PA634 - Check parking brake cables and components for wear, binding, and corrosion; clean, lubricate, adjust or replace as needed.
PA635 - Check parking brake and indicator light system operation; determine necessary action.
PA636 - Check operation of brake stop light system; determine necessary action.
PA637 - Replace wheel bearing and race.
PA638 - Inspect and replace wheel studs.
PA639 - Remove and reinstall sealed wheel bearing assembly.
PA640 - Identify and inspect electronic brake control system components; determine necessary action.
PA641 - Diagnose electronic brake control system electronic control(s) and components by retrieving diagnostic trouble codes, and/or using recommended test equipment; determine necessary action.
PA642 - Depressurize high-pressure components of the electronic brake control system.
PA643 - Bleed the electronic brake control system hydraulic circuits.
PA644 - Identify traction control/vehicle stability control system components.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
CC.3.5.11-12.C Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
CC.3.5.11-12.E Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
CC.3.5.11-12.H Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grades level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
CC.1.5.11-12.B Integrate multiple sources of information presented in diverse formats and media (e.g. visually, quantitative, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.

CC.1.5.11-12.D Present information, findings, and supporting evidence, conveying a clear and distinct perspective; organization, development, substance, and style are appropriate to purpose, audience, and task.
CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.
Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:
CC.2.4.3.A.3 Solve problems involving money using a combination of coins and bills.
CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.
CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.
13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.
13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.
13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.
13.4.11.A Analyze entrepreneurship as it relates to personal career goals and corporate opportunities
13.4.11.B Analyze entrepreneurship as it relates to personal character traits.

Instructional Activities:
- K-W-L with a twist
- Look for unknown words
- Picture questioning
- Picture story
- Read the questions at the end of the chapter
- Read the summary information first

- Scan the lines
- Vocabulary by accident
- Checking for Comparative Knowledge
- Cornell Notes
- Directed reading or learning questions
- Read, listen, share, and question in a small group
- Naming the symbols and numbers
- Oral reading
- Questioning while reading
- Silent Timed Reading
- Small Group Oral Reading/Questioning
- Think aloud
- Using graphic organizers for notes
- Checklist of facts
- Develop tomorrow's quiz
- Demonstrate what was learned
- Question Still Unanswered
- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:

• Safety glasses must be worn in the Auto Shop.
• A work uniform must be worm at all times in the Auto Shop.
• Work shoes must be worn at all times in the Auto Shop.
• Students will follow the safety rules as they apply to each tool or piece of equipment.
• Students will conduct themselves in a safe and professional manner.

Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips/Time Cards
• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION
• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job

• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:
• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Smart Board - Interactive
• Power Point Presentation-Text related.

Unit Name: ELECTRICAL/ELECTRONIC SYSTEMS

Unit Number: 700-2

Unit Description/Objectives:
The students will demonstrate the knowledge and ability to repair electrical and electronic components on a vehicle.

Tasks:
PA701 - Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction.
PA702 - Identify and interpret electrical/electronic system concern; determine necessary action.
PA703 - Research applicable vehicle and service information, such as electrical/electronic system operation, vehicle service history, service precautions, and technical service bulletins.
PA704 - Locate and interpret vehicle and major component identification numbers.
PA705 - Use wiring diagrams during diagnosis of electrical circuit problems.
PA705 - Use wiring diagrams during diagnosis of electrical circuit problems.
PA706 - Check electrical circuits with a test light; determine necessary action.
PA707 - Check electrical circuits using fused jumper wires; determine necessary action.
PA708 - Locate shorts, grounds, opens, and resistance problems in electrical/electronic circuits; determine necessary action.
PA709 - Measure and diagnose the cause(s) of excessive parasitic draw; determine necessary action.
PA710 - Inspect and test fusible links, circuit breakers, and fuses; determine

necessary action.
PA714 - Perform solder repair of electrical wiring.
PA716 - Perform battery state-of-charge test; determine necessary action.
PA717 - Perform battery capacity test; confirm proper battery capacity for vehicle application; determine necessary action.
PA718 - Maintain or restore electronic memory functions.
PA719 - Inspect, clean, fill, and/or replace battery, battery cables, connectors, clamps, and hold-downs.
PA720 - Perform battery charge.
PA721 - Start a vehicle using jumper cables or an auxiliary power supply.
PA723 - Perform starter current draw tests; determine necessary action.
PA724 - Perform starter circuit voltage drop tests; determine necessary action.
PA728 - Differentiate between electrical and engine mechanical problems that cause a slow-crank or no-crank condition.
PA729 - Perform charging system output test; determine necessary action.
PA731 - Inspect, adjust, or replace generator (alternator) drive belts, pulleys, and tensioners; check pulley and belt alignment.
PA732 - Remove, inspect, and install generator (alternator).
PA733 - Perform charging circuit voltage drop tests; determine necessary action.
PA734 - Diagnose the cause of brighter than normal, intermittent, dim, or no light operation; determine necessary action.
PA735 - Inspect, replace, and aim headlights and bulbs.
PA736 - Inspect and diagnose incorrect turn signal or hazard light operation; perform necessary action.
PA740 - Diagnose incorrect horn operation; perform necessary action.
PA741 - Diagnose incorrect wiper operation; diagnose wiper speed control and park problems; perform necessary action.
PA742 - Diagnose incorrect washer operation; perform necessary action.
PA746 - Remove and reinstall door panel.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
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discussions on grades level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
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Focus Anchor/Standard #2:

☐ MATH/SCIENCE

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CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
3.2.3.B4 Identify and classify objects and materials that are conductors or insulators of electricity. Identify and classify objects and materials as magnetic or nonmagnetic.
3.2.6.B2 Describe energy as a property of objects associated with heat, light, electricity, magnetism, mechanical motion, and sound. Differentiate between potential and kinetic energy.
3.2.10.B4 Describe quantitatively the relationships between voltage, current, and resistance to electrical energy and power. Describe the relationship between electricity and magnetism as two aspects of a single electromagnetic force.
3.2.P.B4 Explain how stationary and moving particles result in electricity and magnetism. Develop qualitative and quantitative understanding of current, voltage, resistance, and the connections among them. Explain how electrical induction is applied in technology.
Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
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Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework

• Graded Math practice assignments
• Graded Reading assignments
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SKILL EVALUATION

• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
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• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
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• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
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• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS

• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
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• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:

• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Auto Electricity & Electronics Technology 1st Edition - Duffy ISBN#1-56637-441-3
• Smart Board - Interactive
• Power Point Presentation-Text related.

Unit Name: ENGINE PERFORMANCE

Unit Number: 800-2

Unit Description/Objectives:

The student will understand the systems and the principles necessary for the repair and maintenance of engine performance related issues. This shall include fuel,

ignition and computer related systems.

Tasks:

PA801 - Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction.
PA802 - Identify and interpret engine performance concern; determine necessary action.
PA803 - Research applicable vehicle and service information, such as engine management system operation, vehicle service history, service precautions, and technical service bulletins.
PA804 - Locate and interpret vehicle and major component identification numbers.
PA805 - Inspect engine assembly for fuel, oil, coolant, and other leaks; determine necessary action.
PA806 - Diagnose abnormal engine noise or vibration concerns; determine necessary action.
PA807 - Diagnose abnormal exhaust color, odor, and sound; determine necessary action.
PA808 - Perform engine absolute (vacuum/boost) manifold pressure tests; determine necessary action.
PA809 - Perform cylinder power balance test; determine necessary action.
PA810 - Perform cylinder cranking and running compression tests; determine necessary action.
PA811 - Perform cylinder leakage test; determine necessary action.
PA812 - Diagnose engine mechanical, electrical, electronic, fuel, and ignition concerns; determine necessary action.
PA813 - Verify engine operating temperature; determine necessary action.
PA813 - Verify engine operating temperature; determine necessary action.
PA814 - Perform cooling system pressure tests; check coolant condition; inspect and test radiator, pressure cap, coolant recovery tank, and hoses; perform necessary action.
PA815 - Verify correct camshaft timing.
PA816 - Retrieve and record diagnostic trouble codes, OBD monitor status, and freeze frame data; clear codes when applicable.
PA817 - Diagnose the causes of emissions or drivability concerns with stored or active diagnostic trouble codes; obtain, graph, and interpret scan tool data.
PA818 - Access and use service information to perform step-by-step diagnosis.
PA819 - Perform active tests of actuators using a scan tool; determine necessary action.
PA820 - Describe the importance of running all OBDII monitors for repair verification.
PA821 - Diagnose ignition system related problems such as no-starting, hard starting, engine misfire, poor drivability, spark knock, power loss, poor mileage, and emissions concerns; determine necessary action.
PA825 - Diagnose hot or cold no-starting, hard starting, poor drivability, incorrect idle speed, poor idle, flooding, hesitation, surging, engine misfire, power loss, stalling, poor mileage, dieseling, and emissions problems; determine necessary action.
PA826 - Inspect and test fuel pumps and pump control systems for pressure, regulation, and volume; perform necessary action.
PA827 - Replace fuel filters.
PA828 - Inspect throttle body, air induction system, intake manifold and gaskets for vacuum leaks and/or unmetered air.
PA830 - Verify idle control operation.
PA831 - Inspect the integrity of the exhaust manifold, exhaust pipes, muffler(s), catalytic converter(s), resonator(s), tail pipe(s), and heat shield(s); perform

necessary action.
PA832 - Diagnose oil leaks, emissions, and drivability concerns caused by the positive crankcase ventilation (PCV) system; determine necessary action.
PA833 - Inspect, test and service positive crankcase ventilation (PCV) filter/breather cap, valve, tubes, orifices, and hoses; perform necessary action.
PA834 - Diagnose emissions and drivability concerns caused by the exhaust gas recirculation (EGR) system; determine necessary action.
PA835 - Inspect, test, service and replace components of the EGR system, including EGR tubing, exhaust passages, vacuum/pressure controls, filters and hoses; perform necessary action.
PA836 - Inspect and test electrical/electronic sensors, controls, and wiring of exhaust gas recirculation (EGR) systems; perform necessary action.
PA837 - Inspect and test mechanical components of secondary air injection systems; perform necessary action.
PA838 - Inspect and test electrical/electronically-operated components and circuits of air injection systems; perform necessary action.
PA839 - Inspect and test catalytic converter efficiency.
PA840 - Diagnose emissions and drivability concerns caused by the evaporative emissions control system; determine necessary action.
PA841 - Inspect and test components and hoses of the evaporative emissions control system; perform necessary action.
PA842 - Interpret diagnostic trouble codes (DTCs) and scan tool data related to the emissions control systems; determine necessary action.
PA843 - Remove and replace timing belt; verify correct camshaft timing.
PA844 - Remove and replace thermostat and gasket/seal.
PA845 - Inspect and test mechanical/electrical fans, fan clutch, fan shroud/ducting, air dams, and fan control devices; perform necessary action.
PA846 - Perform engine oil and filter change.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

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CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
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CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.
Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:
CC.2.4.3.A.3 Solve problems involving money using a combination of coins and bills.
CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.
CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
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13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
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13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
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Instructional Activities:
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- Checking for Comparative Knowledge
- Cornell Notes
- Directed reading or learning questions
- Read, listen, share, and question in a small group
- Naming the symbols and numbers
- Oral reading
- Questioning while reading
- Silent Timed Reading
- Small Group Oral Reading/Questioning
- Think aloud
- Using graphic organizers for notes
- Checklist of facts
- Develop tomorrow's quiz
- Demonstrate what was learned
- Question Still Unanswered
- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:

• Safety glasses must be worn in the Auto Shop.
• A work uniform must be worm at all times in the Auto Shop.
• Work shoes must be worn at all times in the Auto Shop.
• Students will follow the safety rules as they apply to each tool or piece of equipment.
• Students will conduct themselves in a safe and professional manner.

Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips/Time Cards
• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION
• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly

• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:
• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Auto Electricity & Electronics Technology 1st Edition - Duffy ISBN#1-56637-441-3
• Smart Board - Interactive
• Power Point Presentation-Text related.

Unit Name: EMPLOYMENT & LEADERSHIP SKILLS (Skills USA -PDP)

Unit Number: 1100-2

Unit Description/Objectives:

The student will gain job seeking, employment and leadership skills through daily implementation of the task activities list below in conjunction with regular class activities.

Students are encouraged to join SkillsUSA, however membership is not mandatory. Student who join this club can receive credit for these tasks through their club participation.

Tasks:

LT1100 - EMPLOYMENT & LEADERSHIP SKILLS
LT1101 - Complete a self-assessment checklist and identify individual learning styles.
LT1102 - Discover self-motivation and establish short term goals.
LT1103 - Determine individual time-management skills.
LT1104 - Define future occupations and opportunities within the trade area.
LT1105 - Develop an awareness of cultural diversity.
LT1106 - Develop an awareness of equity issues.
LT1107 - Identify components of a professional portfolio.

LT1108 - Develop personal financial skills.
LT1109 - Investigate a career in your field.
LT1110 - Measure and modify short term goals.
LT1111 - Identify stress sources.
LT1112 - Demonstrate awareness of governmental agencies, professional organizations and trade unions.
LT1113 - Observe and critique a business meeting and demonstrate business meeting skills.
LT1114 - Demonstrate social etiquette.
LT1115 - Identify customer expectations.
LT1116 - Assemble your employment portfolio. (Resume, task list, learning preference inventory, awards, certifications, newspaper articles, etc.)
LT1117 - Self evaluate your proficiency in program competencies.
LT1118 - Develop and write a good set of work ethics.
LT1119 - Update your career goals.
LT1120 - Explore activities for advanced training and write a plan.
LT1121 - Create a marketing plan for your instructional program.
LT1122 - Serve as a volunteer in your community.
LT1123 - Create a business plan for your own business.
LT1124 - Explore supervisory and management roles in a business.
LT1125 - Understand and demonstrate customer service in the workplace.
LT1126 - Identify and apply conflict resolution and problem-solving skills in the workplace.
LT1127 - Demonstrate evaluation skills by observing and critiquing a peer in a constructive manner.
LT1128 - Perform a skill demonstration for the class.
LT1129 - Research and propose updates to competency list.
LT1130 - Recognize the reasons for pre-employment screenings and assessments and drug and alcohol abuse in the workplace.
LT1131 - Demonstrate effective communication with others.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERATURE

Supporting Anchor/Standards:

CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
CC.3.5.11-12.C Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
CC.3.5.11-12.E Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
CC.3.5.11-12.H Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grades level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
CC.1.5.11-12.B Integrate multiple sources of information presented in diverse formats and media (e.g. visually, quantitative, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
CC.1.5.11-12.D Present information, findings, and supporting evidence, conveying a clear and distinct perspective; organization, development, substance, and style are appropriate to purpose, audience, and task.
CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.
Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:
CC.2.4.3.A.3 Solve problems involving money using a combination of coins and bills.
CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.
CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education, graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.
13.1.11.E Justify the selection of a career.
13.1.11.F Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: associate degree, baccalaureate degree, certificate/licensure, entrepreneurship, immediate part/full time employment, industry training, military training, professional degree, registered apprenticeship, tech prep and Vocational Rehabilitation Centers.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career

interests.
13.2.11.A Apply effective speaking and listening skills used in a job interview.
13.2.11.B Apply research skills in searching for a job: Career Links, Internet (i.e. O-NET), Networking, Newspapers, Professional associations and resource books (that is Occupational Outlook Handbook, PA Career Guide).
13.2.11.C Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation following an interview, letter of introduction, postsecondary education/training applications, request for letter of recommendation, and resume.
13.2.11.D Analyze, revise, and apply an individualized career portfolio to chosen career path.
13.2.11.E Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: commitment, communication, dependability, health/safety, laws and regulations (that is Americans With Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets), personal initiative, Self-Advocacy, scheduling/time management, team building, technical literacy and technology.
13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
13.3.11.B Evaluate team member roles to describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating and summarizing
13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.
13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.
13.3.11.E Evaluate time management strategies and their application to both personal and work situations.
13.3.11.F Evaluate strategies for career retention and advancement in response to the changing global workplace.
13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.
13.4.11.A Analyze entrepreneurship as it relates to personal career goals and corporate opportunities
13.4.11.B Analyze entrepreneurship as it relates to personal character traits.
13.4.11.C Develop a business plan for an entrepreneurial concept of personal interest and identify available resources, such as, but not limited to: community based organizations (that is chambers of commerce, trade/technical associations, industrial resource centers). Financial Institutions, School-based Career Centers, Small Business Administration Services (that is SCORE, Small Business Development Centers, Entrepreneurial Development Centers, venture capital.

Instructional Activities:

- K-W-L with a twist
- Look for unknown words
- Picture questioning
- Picture story
- Read the questions at the end of the chapter
- Read the summary information first

- Scan the lines
- Vocabulary by accident
- Checking for Comparative Knowledge
- Cornell Notes
- Directed reading or learning questions
- Read, listen, share, and question in a small group
- Naming the symbols and numbers
- Oral reading
- Questioning while reading
- Silent Timed Reading
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- Think aloud
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- Demonstrate what was learned
- Question Still Unanswered
- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:

• Safety glasses must be worn in the Auto Shop.
• A work uniform must be worm at all times in the Auto Shop.
• Work shoes must be worn at all times in the Auto Shop.
• Students will follow the safety rules as they apply to each tool or piece of equipment.
• Students will conduct themselves in a safe and professional manner.

Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
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• Graded Math practice assignments
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• Textbook Computer Generated Tests

SKILL EVALUATION
• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
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• Teacher evaluating if PA Program of Study tasks are being achieved as expected
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• Evaluate the student's responsibility to complete work logs as expected.
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• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:
• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Smart Board - Interactive
• Power Point Presentation-Text related.
• SkillsUSA Pennsylvania - http://www.skillsusapennsylvania.com/
• SkillsUSA National - http://www.skillsusa.org/index.shtml

Unit Name: ORIENTATION

Unit Number: 100-3

Unit Description/Objectives:
The students will learn the following concepts: career opportunities and expectations for safety, hygiene, customer service and shop management skills.

Tasks:
PA101 - Explain and follow all lab rules.
PA102 - Participate in basic shop management.
PA103 - Participate in parts ordering.
PA104 - Demonstrate auto shop safety and hygiene.
PA105 - Demonstrate the use of service information.
PA106 - Demonstrate proper telephone courtesy.
PA107 - Identify vehicle by: sight, V.I.N. and/or ID tag.
PA108 - Identify career paths within the career and technical education program.

Standards / Assessment Anchors
Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:
CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

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☐ MATH/SCIENCE

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CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.
CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.
13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.

13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.
13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.
13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.
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Instructional Activities:

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- Question Still Unanswered
- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:

Student Safety Pledge:
I _____ understand that the automotive shop is an
Print Name on Line
inherently dangerous place to work. I pledge to:
1. Follow all school regulations listed in the student handbook at all times.
2. Follow all safety regulations as they pertain to the shop and it's equipment at all times.
3. I will wear work clothes as specified, work shoes, and safety glasses at all times.
4. Avoid horseplay or other distracting behavior.
5. Perform all work in a careful and safe manner.
6. Receive instruction and permission before using any equipment.

7. Never work in the shop without the instructor present.
8. Pass a general safety test, as well as demonstrate the safe use of all equipment.
I agree to the above terms of the safety pledge, and understand that failure to live up to the terms above is grounds for discipline, as spelled out in the student handbook. Repeat offenses may result in removal from the program. Failure to follow these rules may result in serious injury or death. By signing below I agree to all the terms above.

Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Math practice assignments
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• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment

• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:

• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Smart Board - Interactive
• Power Point Presentation-Text related.
• Micrometers, Calipers, Dial Indicators
• Assorted Fasteners
• Assorted Hand and Power Tools

Unit Name: SAFETY

Unit Number: 200-3

Unit Description/Objectives:

The student will demonstrate knowledge of safety and implement general, shop and equipment specific safety rules. Students will also identify the location MSDS forms, fire extinguishers and first aid equipment. The knowledge component shall be evidenced by passing SP-2 certification.

Tasks:

PA201 - Identify and follow all safety rules.
PA202 - Demonstrate the ability to secure vehicles on jack stands and hydraulic lifts.
PA203 - Demonstrate the ability to safely set-up/shut-down oxygen acetylene welding equipment.
PA204 - Identify chemical safety, 'Right-To-Know Laws' and Materials Safety Data Sheets (MSDS).
PA205 - Identify and demonstrate the safe use of hand tools.
PA206 - Identify and demonstrate the safe use of power tools.
PA207 - Identify and demonstrate the safe use of protective clothing and equipment.
PA208 - Identify and demonstrate the safe use of fire protection equipment.
PA209 - Identify and demonstrate the safe use of shop equipment.
PA206 - Identify and demonstrate the safe use of power tools.
PA207 - Identify and demonstrate the safe use of protective clothing and equipment.
PA208 - Identify and demonstrate the safe use of fire protection equipment.
PA209 - Identify and demonstrate the safe use of shop equipment.
PA210 - Explain EPA and OSHA regulations.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
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CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.
Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:
5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
10.1.12.B Evaluate factors that impact the body systems and apply protective/preventive strategies. •fitness level •environment (e.g., pollutants, available health care) •health status (e.g., physical, mental, social) •nutrition.
10.2.12.E Analyze the interrelationships between environmental factors and community health: i.e., public health policies and laws/health promotion and disease prevention, individual choices/maintenance of environment, and recreational opportunities/health status.
10.3.12.A Assess the personal and legal consequences of unsafe practices in the home, school or community: i.e., loss of personal freedom, personal injury, loss of income, impact on others and loss of motor vehicle operator's license.
4.2.12.A Examine environmental laws related to land use management and its impact on the water quality and flow within a watershed.
4.5.12.C Analyze the costs and benefits of means to control pollution. •Analyze the role of technology in the reduction of pollution. •Research and analyze the local, state, and national laws that deal with point and non-point source pollution. •Explain mitigation and its role in maintaining environmental health.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.

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- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:

Safety Pledge - Distribute and have students and parent complete and return.
Review Personal Safety Rules & clothing requirements.
Review Shop Safety Rules.
Review Equipment Specific Safety Rules.
Review MSDS/ Right to Know.
Review Fire Extinguishers and types of fires.
Review first aid procedures.

Assessment:

THEORY EVALUATION

• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips/Time Cards
• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION

• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS

• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:

• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Smart Board - Interactive
• Power Point Presentation-Text related.
• S/P-2 Web Based Safety & Environmental Protection Course

Unit Name: TOOLS/FASTENERS

Unit Number: 300-3

Unit Description/Objectives:

The student will identify and describe the use of tools and fasteners, as well as the repair of damaged fasteners.

Tasks:

PA301 - Identify and use fasteners and bolts.
PA302 - Demonstrate the ability to correctly drill and use re-threading tools.
PA303 - Demonstrate the ability to correctly read and interpret precision automotive measuring tools.
PA304 - Demonstrate the ability to correctly use automotive tools.
PA305 - Perform common fastener and thread repairs, to include: remove broken bolt, restore internal and external threads, and repair internal threads with a threaded insert.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
CC.3.5.11-12.C Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
CC.3.5.11-12.E Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
CC.3.5.11-12.H Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grades level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
CC.1.5.11-12.B Integrate multiple sources of information presented in diverse formats and media (e.g. visually, quantitative, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
CC.1.5.11-12.D Present information, findings, and supporting evidence, conveying a clear and distinct perspective; organization, development, substance, and style are appropriate to purpose, audience, and task.
CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.

Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:

CC.2.1.5.C.1 Use the understanding of equivalency to add and subtract fractions.
CC.2.1.8.E.1 Distinguish between rational and irrational numbers using their properties.
CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.
CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
CC.2.1.HS.F.3 Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays.
CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.
CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.
13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.
13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.
13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.
13.4.11.A Analyze entrepreneurship as it relates to personal career goals and corporate opportunities
13.4.11.B Analyze entrepreneurship as it relates to personal character traits.

Instructional Activities:
- K-W-L with a twist
- Look for unknown words
- Picture questioning
- Picture story
- Read the questions at the end of the chapter
- Read the summary information first
- Scan the lines
- Vocabulary by accident
- Checking for Comparative Knowledge
- Cornell Notes
- Directed reading or learning questions
- Read, listen, share, and question in a small group
- Naming the symbols and numbers

- Oral reading
- Questioning while reading
- Silent Timed Reading
- Small Group Oral Reading/Questioning
- Think aloud
- Using graphic organizers for notes
- Checklist of facts
- Develop tomorrow's quiz
- Demonstrate what was learned
- Question Still Unanswered
- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:

• Safety glasses must be worn in the Auto Shop.
• A work uniform must be worm at all times in the Auto Shop.
• Work shoes must be worn at all times in the Auto Shop.
• Students will follow the safety rules as they apply to each tool or piece of equipment.
• Students will conduct themselves in a safety and professional manner.

Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Math practice assignments
• Graded Reading assignments
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• Class oral responses
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• Exit Slips/Time Cards
• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION
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• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
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• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.

• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
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SPECIAL NEEDS ASSESSMENT ADAPTATIONS

• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
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• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
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Resources/Equipment:

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• Smart Board - Interactive
• Power Point Presentation-Text related.

Unit Name: CERTIFICATIONS

Unit Number: 400-3

Unit Description/Objectives:

The student will be given the opportunity to receive the following industry certifications. Achieving certification is dependent upon the student's ability to meet the criteria set up by the issuing corporation, governmental agency or bureau.

Tasks:

PA401 - Prepare to obtain PA Safety Inspection Certification.
PA402 - Prepare to obtain EPA 609 Refrigerant Recovery, Recycling Certification.
PA403 - Prepare to obtain Emission Inspection Certification.
LT404 - S/P-2 Safety & Environmental Protection Certification
LT405 - Pro-Cut Factory Certification - Brake Lathe

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
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ideas.
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CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grades level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
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CC.1.5.11-12.D Present information, findings, and supporting evidence, conveying a clear and distinct perspective; organization, development, substance, and style are appropriate to purpose, audience, and task.
CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.
Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:
F-IF.CS Understand the concept of a function and use function notation.
N-RN.CS Use properties of rational and irrational numbers.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.
13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.
13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.
13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.
13.4.11.A Analyze entrepreneurship as it relates to personal career goals and corporate opportunities
13.4.11.B Analyze entrepreneurship as it relates to personal character traits.
Instructional Activities:
- K-W-L with a twist
- Look for unknown words
- Picture questioning
- Picture story
- Read the questions at the end of the chapter

- Read the summary information first
- Scan the lines
- Vocabulary by accident
- Checking for Comparative Knowledge
- Cornell Notes
- Directed reading or learning questions
- Read, listen, share, and question in a small group
- Naming the symbols and numbers
- Oral reading
- Questioning while reading
- Silent Timed Reading
- Small Group Oral Reading/Questioning
- Think aloud
- Using graphic organizers for notes
- Checklist of facts
- Develop tomorrow's quiz
- Demonstrate what was learned
- Question Still Unanswered
- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:

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• A work uniform must be worm at all times in the Auto Shop.
• Work shoes must be worn at all times in the Auto Shop.
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Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
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• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

Resources/Equipment:
• Smart Board - Interactive
• Power Point Presentation-Text related.
• PA DOT Website
• MACS - Mobile A/C Service Website

Unit Name: SUSPENSION AND STEERING

Unit Number: 500-3

Unit Description/Objectives:
The student will demonstrate a working knowledge of suspension and steering systems, the repair and maintenance of the components and four-wheel alignment.

Tasks:
PA501 - Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction.
PA502 - Identify and interpret suspension and steering system concerns; determine necessary action.
PA503 - Research applicable vehicle and service information, such as suspension and steering system operation, vehicle service history, service precautions, and technical service bulletins.
PA504 - Locate and interpret vehicle and major component identification numbers.
PA505 - Disable and enable supplemental restraint system (SRS).
PA506 - Remove and replace steering wheel; center/time supplemental restraint system (SRS) coil (clock spring).
PA507 - Remove and replace rack and pinion steering gear; inspect mounting bushings and brackets.
PA508 - Inspect and replace rack and pinion steering gear inner tie rod ends (sockets) and bellows boots.
PA509 - Determine proper power steering fluid type; inspect fluid level and condition.
PA510 - Flush, fill, and bleed power steering system.
PA511 - Diagnose power steering fluid leakage; determine necessary action.
PA512 - Remove, inspect, replace, and adjust power steering pump belt.
PA513 - Remove and reinstall power steering pump.
PA514 - Remove and reinstall press fit power steering pump pulley; check pulley and belt alignment.
PA516 - Inspect and replace pitman arm, relay (centerlink/intermediate) rod, idler arm and mountings, and steering linkage damper.
PA517 - Inspect, replace, and adjust tie rod ends (sockets), tie rod sleeves, and clamps.
PA518 - Inspect and test electric power assist steering.

PA519 - Remove, inspect, and install upper and lower control arms, bushings, shafts, and rebound bumpers.
PA520 - Remove, inspect and install strut rods and bushings.
PA521 - Remove, inspect, and install upper and/or lower ball joints.
PA522 - Remove, inspect, and install steering knuckle assemblies.
PA523 - Remove, inspect, and install short and long arm suspension system coil springs and spring insulators.
PA524 - Remove, inspect, install, and adjust suspension system torsion bars; inspect mounts.
PA525 - Remove, inspect, and install stabilizer bar bushings, brackets, and links.
PA526 - Remove, inspect, and install strut cartridge or assembly, strut coil spring, insulators (silencers), and upper strut bearing mount.
PA527 - Inspect, remove, and replace shock absorbers.
PA528 - Remove, inspect, and service or replace front and rear wheel bearings.
PA529 - Lubricate suspension and steering systems.
PA530 - Perform pre-alignment inspection and measure vehicle ride height; perform necessary action.
PA531 - Prepare vehicle for wheel alignment on the alignment machine; perform four wheel alignment by checking and adjusting front and rear wheel caster, camber; and toe as required; center steering wheel.
PA532 - Check SAI (steering axis inclination) and included angle; determine necessary action.
PA533 - Check rear wheel thrust angle; determine necessary action.
PA534 - Check for front wheel setback; determine necessary action.
PA535 - Check front and/or rear cradle (subframe) alignment; determine necessary action.
PA536 - Inspect tire condition; identify tire wear patterns; check and adjust air pressure; determine necessary action.
PA537 - Diagnose wheel/tire vibration, shimmy, and noise; determine necessary action.
PA538 - Rotate tires according to manufacturer's recommendations.
PA539 - Measure wheel, tire, axle flange, and hub runout; determine necessary action.
PA540 - Diagnose tire pull problems; determine necessary action.
PA541 - Dismount, inspect, and remount tire on wheel; Balance wheel and tire assembly (static and dynamic).
PA542 - Dismount, inspect, and remount tire on wheel equipped with tire pressure monitoring system sensor.
PA543 - Reinstall wheel; torque lug nuts.
PA544 - Inspect tire and wheel assembly for air loss; perform necessary action.
PA545 - Repair tire using internal patch.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

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CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.
Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:
CC.2.4.3.A.3 Solve problems involving money using a combination of coins and bills.
CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.
CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
4.G.CS Draw and identify lines and angles, and classify shapes by properties of their lines and angles.
4.MD.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum f the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.
4.MD.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
4.MD.5a An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a 'one- degree angle', and can be

used to measure angles.
G-CO.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
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13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
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• Word bank with no more than 5 options
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Resources/Equipment:
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• Smart Board - Interactive
• Power Point Presentation-Text related.

Unit Name: BRAKES

Unit Number: 600-3

Unit Description/Objectives:
The student will demonstrate the knowledge of brake systems, ABS, TCC Systems and the repair and maintenance of the components.

Tasks:
PA601 - Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction.
PA602 - Identify and interpret brake system concern; determine necessary action.
PA603 - Research applicable vehicle and service information, such as brake system operation, vehicle service history, service precautions, and technical service bulletins.
PA604 - Locate and interpret vehicle and major component identification numbers.
PA605 - Measure brake pedal height, travel, and free play (as applicable); determine necessary action.
PA606 - Check master cylinder for internal/external leaks and proper operation; determine necessary action.
PA607 - Remove, bench bleed, and reinstall master cylinder.
PA608 - Inspect brake lines, flexible hoses, and fittings for leaks, dents, kinks, rust, cracks, bulging or wear; tighten loose fittings and supports; determine necessary action.
PA609 - Replace brake lines, hoses, fittings, and supports.
PA610 - Fabricate brake lines using proper material and flaring procedures (double flare and ISO types).
PA611 - Select, handle, store, and fill brake fluids to proper level.
PA612 - Inspect, test, and/or replace components of brake warning light system.
PA 613 - Bleed and/or flush brake system.
PA614 - Diagnose poor stopping, noise, vibration, pulling, grabbing, dragging or pedal pulsation concerns; determine necessary action.
PA615 - Remove, clean, inspect, and measure brake drums; determine necessary action.
PA616 - Refinish brake drum; measure final drum diameter.
PA617 - Remove, clean, and inspect brake shoes, springs, pins, clips, levers, adjusters/self-adjusters, other related brake hardware, and backing support plates; lubricate and reassemble.
PA618 - Inspect and install wheel cylinders.
PA619 - Pre-adjust brake shoes and parking brake; install brake drums or drum/hub assemblies and wheel bearings.
PA620 - Install wheel, torque lug nuts, and make final checks and adjustments.
PA621 - Diagnose poor stopping, noise, vibration, pulling, grabbing, dragging or pulsation concerns; determine necessary action.

PA622 - Remove caliper assembly; inspect for leaks and damage to caliper housing; determine necessary action.
PA623 - Clean and inspect caliper mounting and slides/pins for operation, wear, and damage; determine necessary action.
PA624 - Reassemble, lubricate, and reinstall caliper, pads, and related hardware; seat pads, and inspect for leaks.
PA625 - Clean, inspect, and measure rotor thickness, lateral runout, and thickness variation; determine necessary action.
PA626 - Remove and reinstall rotor.
PA627 - Refinish rotor on vehicle; measure final rotor thickness.
PA628 - Refinish rotor off vehicle; measure final rotor thickness.
PA629 - Install wheel, torque lug nuts, and make final checks and adjustments.
PA630 - Check brake pad wear indicator system operation; determine necessary action.
PA631 - Test pedal free travel; check power assist operation.
PA632 - Check vacuum supply to vacuum-type power booster.
PA633 - Remove, clean, inspect, repack, and install wheel bearings and replace seals; install hub and adjust bearings.
PA634 - Check parking brake cables and components for wear, binding, and corrosion; clean, lubricate, adjust or replace as needed.
PA635 - Check parking brake and indicator light system operation; determine necessary action.
PA636 - Check operation of brake stop light system; determine necessary action.
PA637 - Replace wheel bearing and race.
PA638 - Inspect and replace wheel studs.
PA639 - Remove and reinstall sealed wheel bearing assembly.
PA640 - Identify and inspect electronic brake control system components; determine necessary action.
PA641 - Diagnose electronic brake control system electronic control(s) and components by retrieving diagnostic trouble codes, and/or using recommended test equipment; determine necessary action.
PA642 - Depressurize high-pressure components of the electronic brake control system.
PA643 - Bleed the electronic brake control system hydraulic circuits.
PA644 - Identify traction control/vehicle stability control system components.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
CC.3.5.11-12.C Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
CC.3.5.11-12.E Analyze how the text structures information or ideas into

categories or hierarchies, demonstrating understanding of the information or ideas.
CC.3.5.11-12.H Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grades level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
CC.1.5.11-12.B Integrate multiple sources of information presented in diverse formats and media (e.g. visually, quantitative, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
CC.1.5.11-12.D Present information, findings, and supporting evidence, conveying a clear and distinct perspective; organization, development, substance, and style are appropriate to purpose, audience, and task.
CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.
Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:
CC.2.4.3.A.3 Solve problems involving money using a combination of coins and bills.
CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.
CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.
13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.
13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.

13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.
13.4.11.A Analyze entrepreneurship as it relates to personal career goals and corporate opportunities
13.4.11.B Analyze entrepreneurship as it relates to personal character traits.

Instructional Activities:

- K-W-L with a twist
- Look for unknown words
- Picture questioning
- Picture story
- Read the questions at the end of the chapter
- Read the summary information first
- Scan the lines
- Vocabulary by accident
- Checking for Comparative Knowledge
- Cornell Notes
- Directed reading or learning questions
- Read, listen, share, and question in a small group
- Naming the symbols and numbers
- Oral reading
- Questioning while reading
- Silent Timed Reading
- Small Group Oral Reading/Questioning
- Think aloud
- Using graphic organizers for notes
- Checklist of facts
- Develop tomorrow's quiz
- Demonstrate what was learned
- Question Still Unanswered
- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:

• Safety glasses must be worn in the Auto Shop.
• A work uniform must be worm at all times in the Auto Shop.
• Work shoes must be worn at all times in the Auto Shop.
• Students will follow the safety rules as they apply to each tool or piece of equipment.
• Students will conduct themselves in a safe and professional manner.

Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips/Time Cards

• Student Hand Held Response Systems
• Textbook Computer Generated Tests
SKILL EVALUATION
• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.
SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment
Resources/Equipment:
• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Smart Board - Interactive
• Power Point Presentation-Text related.

Unit Name: ELECTRICAL/ELECTRONIC SYSTEMS

Unit Number: 700-3
Unit Description/Objectives:
The students will demonstrate the knowledge and ability to repair electrical and electronic components on a vehicle.
Tasks:
PA701 - Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction.
PA702 - Identify and interpret electrical/electronic system concern; determine necessary action.
PA703 - Research applicable vehicle and service information, such as electrical/electronic system operation, vehicle service history, service precautions,

and technical service bulletins.
PA704 - Locate and interpret vehicle and major component identification numbers.
PA705 - Use wiring diagrams during diagnosis of electrical circuit problems.
PA705 - Use wiring diagrams during diagnosis of electrical circuit problems.
PA706 - Check electrical circuits with a test light; determine necessary action.
PA707 - Check electrical circuits using fused jumper wires; determine necessary action.
PA708 - Locate shorts, grounds, opens, and resistance problems in electrical/electronic circuits; determine necessary action.
PA709 - Measure and diagnose the cause(s) of excessive parasitic draw; determine necessary action.
PA710 - Inspect and test fusible links, circuit breakers, and fuses; determine necessary action.
PA711 - Inspect and test switches, connectors, relays, solenoid solid state devices, and wires of electrical/electronic circuits; perform necessary action.
PA712 - Remove and replace terminal end from connector; replace connectors and terminal ends.
PA713 - Repair wiring harness (including CAN/BUS systems).
PA714 - Perform solder repair of electrical wiring.
PA715 - Identify location of hybrid vehicle high voltage circuit disconnect (service plug) location and safety procedures.
PA716 - Perform battery state-of-charge test; determine necessary action.
PA717 - Perform battery capacity test; confirm proper battery capacity for vehicle application; determine necessary action.
PA718 - Maintain or restore electronic memory functions.
PA719 - Inspect, clean, fill, and/or replace battery, battery cables, connectors, clamps, and hold-downs.
PA720 - Perform battery charge.
PA721 - Start a vehicle using jumper cables or an auxiliary power supply.
PA722 - Identify electronic modules, security systems, radios, and other accessories that require re-initialization or code entry following battery disconnect.
PA723 - Perform starter current draw tests; determine necessary action.
PA724 - Perform starter circuit voltage drop tests; determine necessary action.
PA725 - Inspect and test starter relays and solenoids; determine necessary action.
PA726 - Remove and install starter in a vehicle.
PA727 - Inspect and test switches, connectors, and wires of starter control circuits; perform necessary action.
PA728 - Differentiate between electrical and engine mechanical problems that cause a slow-crank or no-crank condition.
PA729 - Perform charging system output test; determine necessary action.
PA730 - Diagnose charging system for the cause of undercharge, no-charge, and overcharge conditions.
PA731 - Inspect, adjust, or replace generator (alternator) drive belts, pulleys, and tensioners; check pulley and belt alignment.
PA732 - Remove, inspect, and install generator (alternator).
PA733 - Perform charging circuit voltage drop tests; determine necessary action.
PA734 - Diagnose the cause of brighter than normal, intermittent, dim, or no light operation; determine necessary action.
PA735 - Inspect, replace, and aim headlights and bulbs.
PA736 - Inspect and diagnose incorrect turn signal or hazard light operation; perform necessary action.
PA737 - Inspect and test gauges and gauge sending units for cause of abnormal gauge readings; determine necessary action.

PA738 - Inspect and test connectors, wires, and printed circuit boards of gauge circuits; determine necessary action.
PA739 - Diagnose the cause of incorrect operation of warning devices and other driver information systems; determine necessary action.
PA740 - Diagnose incorrect horn operation; perform necessary action.
PA741 - Diagnose incorrect wiper operation; diagnose wiper speed control and park problems; perform necessary action.
PA742 - Diagnose incorrect washer operation; perform necessary action.
PA743 - Diagnose incorrect operation of motor-driven accessory circuits; determine necessary action.
PA745 - Disarm and enable the airbag system for vehicle service.
PA746 - Remove and reinstall door panel.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

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Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:

CC.2.4.3.A.3 Solve problems involving money using a combination of coins and bills.

CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.
CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
3.2.3.B4 Identify and classify objects and materials that are conductors or insulators of electricity. Identify and classify objects and materials as magnetic or nonmagnetic.
3.2.6.B2 Describe energy as a property of objects associated with heat, light, electricity, magnetism, mechanical motion, and sound. Differentiate between potential and kinetic energy.
3.2.10.B4 Describe quantitatively the relationships between voltage, current, and resistance to electrical energy and power. Describe the relationship between electricity and magnetism as two aspects of a single electromagnetic force.
3.2.P.B4 Explain how stationary and moving particles result in electricity and magnetism. Develop qualitative and quantitative understanding of current, voltage, resistance, and the connections among them. Explain how electrical induction is applied in technology.
Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.
13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.
13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.
13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.
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13.4.11.B Analyze entrepreneurship as it relates to personal character traits.
Instructional Activities:
- K-W-L with a twist
- Look for unknown words
- Picture questioning
- Picture story
- Read the questions at the end of the chapter
- Read the summary information first

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- Vocabulary by accident
- Checking for Comparative Knowledge
- Cornell Notes
- Directed reading or learning questions
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- Naming the symbols and numbers
- Oral reading
- Questioning while reading
- Silent Timed Reading
- Small Group Oral Reading/Questioning
- Think aloud
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- Checklist of facts
- Develop tomorrow's quiz
- Demonstrate what was learned
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- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:

• Safety glasses must be worn in the Auto Shop.
• A work uniform must be worm at all times in the Auto Shop.
• Work shoes must be worn at all times in the Auto Shop.
• Students will follow the safety rules as they apply to each tool or piece of equipment.
• Students will conduct themselves in a safe and professional manner.

Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Class oral responses
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• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION
• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
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• Teacher determining if the student has the skills to work independently on an assigned job

• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:
• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Auto Electricity & Electronics Technology 1st Edition - Duffy ISBN#1-56637-441-3
• Smart Board - Interactive
• Power Point Presentation-Text related.

Unit Name: ENGINE PERFORMANCE

Unit Number: 800-3

Unit Description/Objectives:
The student will understand the systems and the principles necessary for the repair and maintenance of engine performance related issues. This shall include fuel, ignition and computer related systems.

Tasks:
PA801 - Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction.
PA802 - Identify and interpret engine performance concern; determine necessary action.
PA803 - Research applicable vehicle and service information, such as engine management system operation, vehicle service history, service precautions, and technical service bulletins.
PA804 - Locate and interpret vehicle and major component identification numbers.
PA805 - Inspect engine assembly for fuel, oil, coolant, and other leaks; determine necessary action.
PA806 - Diagnose abnormal engine noise or vibration concerns; determine necessary action.
PA807 - Diagnose abnormal exhaust color, odor, and sound; determine necessary action.
PA808 - Perform engine absolute (vacuum/boost) manifold pressure tests; determine necessary action.

PA809 - Perform cylinder power balance test; determine necessary action.
PA810 - Perform cylinder cranking and running compression tests; determine necessary action.
PA811 - Perform cylinder leakage test; determine necessary action.
PA812 - Diagnose engine mechanical, electrical, electronic, fuel, and ignition concerns; determine necessary action.
PA813 - Verify engine operating temperature; determine necessary action.
PA813 - Verify engine operating temperature; determine necessary action.
PA814 - Perform cooling system pressure tests; check coolant condition; inspect and test radiator, pressure cap, coolant recovery tank, and hoses; perform necessary action.
PA815 - Verify correct camshaft timing.
PA816 - Retrieve and record diagnostic trouble codes, OBD monitor status, and freeze frame data; clear codes when applicable.
PA817 - Diagnose the causes of emissions or drivability concerns with stored or active diagnostic trouble codes; obtain, graph, and interpret scan tool data.
PA818 - Access and use service information to perform step-by-step diagnosis.
PA819 - Perform active tests of actuators using a scan tool; determine necessary action.
PA820 - Describe the importance of running all OBDII monitors for repair verification.
PA821 - Diagnose ignition system related problems such as no-starting, hard starting, engine misfire, poor drivability, spark knock, power loss, poor mileage, and emissions concerns; determine necessary action.
PA822 - Inspect and test ignition primary and secondary circuit wiring and solid state components; test ignition coil(s); perform necessary action.
PA823 - Inspect and test crankshaft and camshaft position sensor(s); perform necessary action.
PA824 - Inspect, test, and/or replace ignition control module, powertrain/engine control module; reprogram as necessary.
PA825 - Diagnose hot or cold no-starting, hard starting, poor drivability, incorrect idle speed, poor idle, flooding, hesitation, surging, engine misfire, power loss, stalling, poor mileage, dieseling, and emissions problems; determine necessary action.
PA826 - Inspect and test fuel pumps and pump control systems for pressure, regulation, and volume; perform necessary action.
PA827 - Replace fuel filters.
PA828 - Inspect throttle body, air induction system, intake manifold and gaskets for vacuum leaks and/or unmetered air.
PA830 - Verify idle control operation.
PA831 - Inspect the integrity of the exhaust manifold, exhaust pipes, muffler(s), catalytic converter(s), resonator(s), tail pipe(s), and heat shield(s); perform necessary action.
PA832 - Diagnose oil leaks, emissions, and drivability concerns caused by the positive crankcase ventilation (PCV) system; determine necessary action.
PA833 - Inspect, test and service positive crankcase ventilation (PCV) filter/breather cap, valve, tubes, orifices, and hoses; perform necessary action.
PA834 - Diagnose emissions and drivability concerns caused by the exhaust gas recirculation (EGR) system; determine necessary action.
PA835 - Inspect, test, service and replace components of the EGR system, including EGR tubing, exhaust passages, vacuum/pressure controls, filters and hoses; perform necessary action.
PA836 - Inspect and test electrical/electronic sensors, controls, and wiring of exhaust gas recirculation (EGR) systems; perform necessary action.

PA837 - Inspect and test mechanical components of secondary air injection systems; perform necessary action.
PA838 - Inspect and test electrical/electronically-operated components and circuits of air injection systems; perform necessary action.
PA839 - Inspect and test catalytic converter efficiency.
PA840 - Diagnose emissions and drivability concerns caused by the evaporative emissions control system; determine necessary action.
PA841 - Inspect and test components and hoses of the evaporative emissions control system; perform necessary action.
PA842 - Interpret diagnostic trouble codes (DTCs) and scan tool data related to the emissions control systems; determine necessary action.
PA843 - Remove and replace timing belt; verify correct camshaft timing.
PA844 - Remove and replace thermostat and gasket/seal.
PA845 - Inspect and test mechanical/electrical fans, fan clutch, fan shroud/ducting, air dams, and fan control devices; perform necessary action.
PA846 - Perform engine oil and filter change.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERACY

Supporting Anchor/Standards:

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Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:

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CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.

Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:

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13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.
13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.
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- Exit slips of learning
- Exit slips of questions
- Sticky tab board
- Test question list
- What are three things that you learned?
- Writing journals

Safety:

• Safety glasses must be worn in the Auto Shop.
• A work uniform must be worm at all times in the Auto Shop.
• Work shoes must be worn at all times in the Auto Shop.
• Students will follow the safety rules as they apply to each tool or piece of equipment.
• Students will conduct themselves in a safe and professional manner.

Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips/Time Cards
• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION
• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Evaluate the student’s ability to work within a team when teamwork is necessary.
• Evaluate the student’s responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.

• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.
SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment
Resources/Equipment:
• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Auto Electricity & Electronics Technology 1st Edition - Duffy ISBN#1-56637-441-3
• Smart Board - Interactive
• Power Point Presentation-Text related.

Unit Name: AUTOMOTIVE HVAC (Optional)

Unit Number: 900-3
Unit Description/Objectives:
The student will understand the operating principles of automotive HVAC systems as well as the environmental impact of refrigerants, as well as common procedures need to acquire an EPA609 certification for A/C repair through MACS. (This section is optional.)
Tasks:
LT900 - AUTOMOTIVE HEATING & A/C SYSTEMS
LT901 - Explain the operation of an expansion valve, constant run compressor system.
LT 902 - Explain the operation of a capillary tube, cycling compressor system.
LT 903 - Explain the environmental impact of leaking R-12 from pre-1996 systems.
LT 904 - Explain the difference in R-134A compounds used in modern automobiles and R-12 used in pre-1996 vehicles.
LT 905 - Demonstrate the use of a recycling machine to recover refrigerant.
LT 906 - Recycle and purge non-condensable gasses on a recycling machine.
LT 906 - Perform a 30 minute static vacuum test for system leakage on an empty system.
LT 907 - Demonstrate the use of a halide/electronic leak detector to locate potential leakage.
LT 908 - Diagnose a blower speed control issue and determine the cause.
LT 909 - Locate and interpret the circuit diagrams for an air conditioning control circuit.
LT 910 - Leak test a heater core and determine service procedures.
LT 911 - Back-flush a heater core and radiator.
LT 912 - Drain, refill and bleed the air from a cooling system.
Standards / Assessment Anchors
Focus Anchor/Standard #1:

☐ LITERATURE

Supporting Anchor/Standards:

CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

CC.3.5.11-12.C Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.

CC.3.5.11-12.H Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

CC.3.5.11-12.J By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.

CC.8.6.11-12.H Draw evidence from informational texts to support analysis, reflection, and research.

Focus Anchor/Standard #2:

☐ MATH & SCIENCE

Supporting Anchor/Standards:

CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.

4.1.12.E Research solutions addressing human impacts on ecosystems over time

4.2.12.A Examine environmental laws related to land use management and its impact on the water quality and flow within a watershed.

4.2.12.B Analyze the effects of policies and regulations at various governmental levels on wetlands and their surrounding environments. •Examine various public policies relating to wetlands. •Investigate the intended and unintended effects of public policies and regulations relating to wetlands.

Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:

13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education, graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.

Instructional Activities:

- Anticipation guide
- Bold print guess
- K-W-L with a twist
- Look for unknown words
- Read the questions at the end of the chapter
- Checking for Comparative Knowledge
- Cornell Notes

- Read, listen, share, and question in a small group
- Questioning while reading
- Checklist of facts
- Essential Question Reflection
- Exit slips of questions

Safety:

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• Students will conduct themselves in a safe and professional manner.

Assessment:

- Business and Industry Credentialing Tests
- Exit Slips
- Teacher made Quizzes
- Class Participation
- Project
- Skill Performance
- Teacher Interview With Students

Resources/Equipment:

• Modern Automotive Technology 7th Edition - Duffy ISBN#978-1-59070-956-6
• Auto Electricity & Electronics Technology 1st Edition - Duffy ISBN#1-56637-441-3
• Smart Board - Interactive
• Power Point Presentation-Text related.
• http://www.macsw.org/imis15/MACS

Unit Name: DRIVE TRAINS

Unit Number: 1000-3

Unit Description/Objectives:

The student will learn the basic skills necessary to maintain and make basic repairs to the drive train components.

Tasks:

LT1000 - DRIVE TRAINS
LT1001 - Check the fluid level of an automatic transmission.
LT1002 - Drain, change filter, and refill an automatic transmission
LT1003 - Check the fluid level on a manual transmission.
LT1004 - Replace a clutch on a vehicle with a manual transmission.
LT1005 - Bleed a hydraulic clutch system of air.
LT1006 - Check the fluid in a transfer case.
LT1007 - Check the fluid in a differential housing. (Rear or 4 wheel drive)
LT1008 - Check gear backlash using a dial indicator on a differential.
LT1009 - Check ring gear back face runout using a dial indicator.
LT1010 - Check gear tooth contact drive and coast side with marking compound and determine corrective action.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERATURE

Supporting Anchor/Standards:

CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
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CC.8.6.11-12.H Draw evidence from informational texts to support analysis, reflection, and research.
Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:
CC.2.4.3.A.3 Solve problems involving money using a combination of coins and bills.
CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.
CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.
13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.
13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.
13.3.11.G Evaluate the impact of lifelong learning on career retention and

advancement.
13.4.11.A Analyze entrepreneurship as it relates to personal career goals and corporate opportunities
13.4.11.B Analyze entrepreneurship as it relates to personal character traits.

Instructional Activities:

- K-W-L with a twist
- Look for unknown words
- Picture questioning
- Picture story
- Read the questions at the end of the chapter
- Read the summary information first
- Scan the lines
- Vocabulary by accident
- Checking for Comparative Knowledge
- Cornell Notes
- Directed reading or learning questions
- Read, listen, share, and question in a small group
- Naming the symbols and numbers
- Oral reading
- Questioning while reading
- Silent Timed Reading
- Small Group Oral Reading/Questioning
- Think aloud
- Using graphic organizers for notes
- Checklist of facts
- Develop tomorrow's quiz
- Demonstrate what was learned
- Question Still Unanswered
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Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Math practice assignments
• Graded Reading assignments
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• Textbook Computer Generated Tests
SKILL EVALUATION
• Scores on projects when they are completed
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• Evaluate if students work without hindering other students' progress.
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• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.
SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:
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• Smart Board - Interactive
• Power Point Presentation-Text related.

Unit Name: EMPLOYMENT & LEADERSHIP SKILLS (Skills USA -PDP)

Unit Number: 1100-3

Unit Description/Objectives:
The student will gain job seeking, employment and leadership skills through daily implementation of the task activities lists below in conjunction with regular class activities.
Students are encouraged to join SkillsUSA, however membership is not mandatory. Student who join this club can receive credit for these tasks through their club participation.

Tasks:
LT1100 - EMPLOYMENT & LEADERSHIP SKILLS
LT1101 - Complete a self-assessment checklist and identify individual learning styles.

LT1102 - Discover self-motivation and establish short term goals.
LT1103 - Determine individual time-management skills.
LT1104 - Define future occupations and opportunities within the trade area.
LT1105 - Develop an awareness of cultural diversity.
LT1106 - Develop an awareness of equity issues.
LT1107 - Identify components of a professional portfolio.
LT1108 - Develop personal financial skills.
LT1109 - Investigate a career in your field.
LT1110 - Measure and modify short term goals.
LT1111 - Identify stress sources.
LT1112 - Demonstrate awareness of governmental agencies, professional organizations and trade unions.
LT1113 - Observe and critique a business meeting and demonstrate business meeting skills.
LT1114 - Demonstrate social etiquette.
LT1115 - Identify customer expectations.
LT1116 - Assemble your employment portfolio. (Resume, task list, learning preference inventory, awards, certifications, newspaper articles, etc.)
LT1117 - Self evaluate your proficiency in program competencies.
LT1118 - Develop and write a good set of work ethics.
LT1119 - Update your career goals.
LT1120 - Explore activities for advanced training and write a plan.
LT1121 - Create a marketing plan for your instructional program.
LT1122 - Serve as a volunteer in your community.
LT1123 - Create a business plan for your own business.
LT1124 - Explore supervisory and management roles in a business.
LT1125 - Understand and demonstrate customer service in the workplace.
LT1126 - Identify and apply conflict resolution and problem-solving skills in the workplace.
LT1127 - Demonstrate evaluation skills by observing and critiquing a peer in a constructive manner.
LT1128 - Perform a skill demonstration for the class.
LT1129 - Research and propose updates to competency list.
LT1130 - Recognize the reasons for pre-employment screenings and assessments and drug and alcohol abuse in the workplace.
LT1131 - Demonstrate effective communication with others.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

☐ LITERATURE

Supporting Anchor/Standards:

CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
CC.3.5.11-12.C Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.

CC.3.5.11-12.E Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
CC.3.5.11-12.H Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grades level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
CC.1.5.11-12.B Integrate multiple sources of information presented in diverse formats and media (e.g. visually, quantitative, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
CC.1.5.11-12.D Present information, findings, and supporting evidence, conveying a clear and distinct perspective; organization, development, substance, and style are appropriate to purpose, audience, and task.
CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.
Focus Anchor/Standard #2:

☐ MATH/SCIENCE

Supporting Anchor/Standards:
CC.2.4.3.A.3 Solve problems involving money using a combination of coins and bills.
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CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.
CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
Connecting Anchor/Standard:

☐ CAREER EDUCATION & WORK

Supporting Anchor/Standards:
13.1.11.A Relate careers to individual interests, abilities, and aptitudes.
13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education, graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.
13.1.11.E Justify the selection of a career.
13.1.11.F Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: associate degree, baccalaureate degree, certificate/licensure, entrepreneurship, immediate part/full time employment, industry training, military training, professional

degree, registered apprenticeship, tech prep and Vocational Rehabilitation Centers.
13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.
13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.
13.2.11.A Apply effective speaking and listening skills used in a job interview.
13.2.11.B Apply research skills in searching for a job: Career Links, Internet (i.e. O-NET), Networking, Newspapers, Professional associations and resource books (that is Occupational Outlook Handbook, PA Career Guide).
13.2.11.C Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation following an interview, letter of introduction, postsecondary education/training applications, request for letter of recommendation, and resume.
13.2.11.D Analyze, revise, and apply an individualized career portfolio to chosen career path.
13.2.11.E Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: commitment, communication, dependability, health/safety, laws and regulations (that is Americans With Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets), personal initiative, Self-Advocacy, scheduling/time management, team building, technical literacy and technology.
13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.
13.3.11.B Evaluate team member roles to describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating and summarizing
13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.
13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.
13.3.11.E Evaluate time management strategies and their application to both personal and work situations.
13.3.11.F Evaluate strategies for career retention and advancement in response to the changing global workplace.
13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.
13.4.11.A Analyze entrepreneurship as it relates to personal career goals and corporate opportunities
13.4.11.B Analyze entrepreneurship as it relates to personal character traits.
13.4.11.C Develop a business plan for an entrepreneurial concept of personal interest and identify available resources, such as, but not limited to: community based organizations (that is chambers of commerce, trade/technical associations, industrial resource centers). Financial Institutions, School-based Career Centers, Small Business Administration Services (that is SCORE, Small Business Development Centers, Entrepreneurial Development Centers, venture capital.

Instructional Activities:
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- Picture story
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- Vocabulary by accident
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• Scores on projects when they are completed
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• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Evaluate the student's ability to work within a team when teamwork is necessary.
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• Tests read aloud
• Word bank with no more than 10 options
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• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Resources/Equipment:

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• Smart Board - Interactive
• Power Point Presentation-Text related.
• SkillsUSA Pennsylvania - http://www.skillsusapennsylvania.com/
• SkillsUSA National - http://www.skillsusa.org/index.shtml

High School Graduation Years 2019, 2020 and 2021

Automobile/Automotive Mechanics Technology/Technician
CIP 47.0604
Task Grid
Secondary Competency Task List

100 **ORIENTATION**
101 Explain and follow all lab rules.
102 Participate in basic shop management.
103 Participate in parts ordering.
104 Demonstrate auto shop safety and hygiene.
105 Demonstrate the use of service information.
106 Demonstrate proper telephone courtesy.
107 Identify vehicle by: sight, V.I.N. and/or ID tag.
108 Identify career paths within the career and technical education program.
109
Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and
correction.
110 Research applicable vehicle and service information, vehicle service history, service precautions, and technical service bulletins.
111 Locate and interpret vehicle and major component identification numbers.
200 **SAFETY**
201 Identify and follow all safety rules.
202 Demonstrate the ability to secure vehicles on jack stands and hydraulic lifts.
203 Demonstrate the ability to safely set-up/shut-down oxygen acetylene welding equipment.
204 Identify chemical safety, "Right-To-Know Laws" and Safety Data Sheets (SDS).
205 Identify and demonstrate the safe use of hand tools.
206 Identify and demonstrate the safe use of power tools.
207 Identify and demonstrate the safe use of protective clothing and equipment.
208 Identify and demonstrate the safe use of fire protection equipment.
209 Identify and demonstrate the safe use of shop equipment.
210 Explain EPA and OSHA Regulations.
300 **TOOLS/FASTENERS**
301 Identify and use fasteners and bolts.
302 Demonstrate the ability to correctly drill and use re-threading tools.
303 Demonstrate the ability to correctly read and interpret precision automotive measuring tools.
304 Demonstrate the ability to correctly use automotive tools.
305
Perform common fastener and thread repairs, to include: remove broken bolt, restore internal and external threads, and repair internal threads
with a threaded insert.
400 **CERTIFICATIONS**
401 Prepare to obtain PA Safety Inspection Certification.
Unit/Standard Number
Proficiency Level
Achieved:
(X) Indicates
Competency
Achieved to Industry
Proficiency Level
Revised April 2018 1
High School Graduation Years 2019, 2020 and 2021

Automobile/Automotive Mechanics Technology/Technician CIP 47.0604
Task Grid

Unit/Standard Number
Proficiency Level
Achieved:
(X) Indicates
Competency
Achieved to Industry
Proficiency Level

402 Prepare to obtain EPA 609 Refrigerant Recovery, Recycling Certification.
403 Prepare to obtain Emission Inspection Certification.
500 **SUSPENSION AND STEERING**
501 RESERVED
502 Identify and interpret suspension and steering system concerns; determine necessary action.
503 RESERVED
504 RESERVED
505 RESERVED
506 RESERVED
507 Inspect rack and pinion steering gear; inspect mounting bushings and brackets.
508 Inspect rack and pinion steering gear inner tie rod ends (sockets) and bellows boots.
509 Determine proper power steering fluid type; inspect fluid level and condition.
510 Flush, fill, and bleed power steering system.
511 Diagnose power steering fluid leakage; determine necessary action.
512 RESERVED
513 Remove and reinstall power steering pump.
514 Remove and reinstall press fit power steering pump pulley; check pulley and belt alignment.
515 Inspect and replace power steering hoses and fittings.
516 Inspect and replace pitman arm, relay (centerlink/intermediate) rod, idler arm and mountings, and steering linkage damper.
517 Inspect, replace, and adjust tie rod ends (sockets), tie rod sleeves, and clamps.
518 RESERVED
519 Inspect, and/or replace upper and lower control arms, bushings, shafts, and rebound bumpers.
520 Inspect, and/or replace strut rods and bushings.
521 Inspect, and/or replace upper and/or lower ball joints.
522 Inspect, and/or replace steering knuckle assemblies.
523 Inspect, and/or replace short and long arm suspension system coil springs and spring insulators.
524 Inspect, and/or replace, and adjust suspension system torsion bars; inspect mounts.
525 Inspect, and/or replace stabilizer bar bushings, brackets, and links.
526 Inspect, and/or replace strut cartridge or assembly, strut coil spring, insulators (silencers), and upper strut bearing mount.
527 Inspect, remove, and replace shock absorbers.
528 RESERVED
529 Lubricate suspension and steering systems.
530 Perform pre-alignment inspection and measure vehicle ride height; perform necessary action.
531
Prepare vehicle for wheel alignment on the alignment machine; describe alignment angles and perform four wheel alignment by checking and
adjusting front and rear wheel caster, camber; and toe as required; center steering wheel.
532 RESERVED

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533 RESERVED
534 RESERVED
535 Check front and/or rear cradle (subframe) alignment; determine necessary action.
536 Inspect tire condition; identify tire wear patterns; check and adjust air pressure; determine necessary action.
537 Diagnose wheel/tire vibration, shimmy, and noise; determine necessary action.
538 Rotate tires according to manufacturer's recommendations.
539 Measure wheel, tire, axle flange, and hub runout; determine necessary action.
540 Diagnose tire pull problems; determine necessary action.
541 Dismount, inspect, and remount tire on wheel; balance wheel and tire assembly (static and dynamic).
542 Dismount, inspect, and remount tire on wheel equipped with tire pressure monitoring system sensor.
543 RESERVED
544 Inspect tire and wheel assembly for air loss; perform necessary action.
545 Repair tire using internal patch.
546 Identify indirect and direct tire pressure monitoring systems (TPMS) calibrate system; verify operation of instrument panel lamps.
547 Identify steps required to remove and replace sensors in a tire pressure monitoring system (TPMS) including relearn procedure.
600 **BRAKES**
601 RESERVED
602 Identify and interpret brake system concern; determine necessary action.
603 RESERVED
604 RESERVED
605 Measure brake pedal height, travel, and free play (as applicable); determine necessary action.
606 Check master cylinder for internal/external leaks and proper operation; determine necessary action.
607 Remove, bench bleed, and reinstall master cylinder.
608
Inspect brake lines, flexible hoses, and fittings for leaks, dents, kinks, rust, cracks, bulging or wear; tighten loose fittings and supports;
determine necessary action.
609 Replace brake lines, hoses, fittings, and supports.
610 Fabricate brake lines using proper material and flaring procedures (double flare and ISO types).
611 Select, handle, store, and fill brake fluids to proper level.
612 Inspect, test, and/or replace components of brake warning light system.
613 Bleed and/or flush brake system.
614 Diagnose poor stopping, noise, vibration, pulling, grabbing, dragging or pedal pulsation concerns; determine necessary action.
615 Remove, clean, inspect, and measure brake drums; determine necessary action.
616 Refinish brake drum; measure final drum diameter.
617
Remove, clean, and inspect brake shoes, springs, pins, clips, levers, adjusters/self-adjusters, other related brake hardware, and backing
support plates; lubricate and reassemble.
618 Inspect and install wheel cylinders.

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619 Pre-adjust brake shoes and parking brake; install brake drums or drum/hub assemblies and wheel bearings.
620 Install wheel, torque lug nuts, and make final checks and adjustments.
621 RESERVED
622 Remove caliper assembly; inspect for leaks and damage to caliper housing; determine necessary action.
623 Clean and inspect caliper mounting and slides/pins for operation, wear, and damage; determine necessary action.
624 Reassemble, lubricate, and reinstall caliper, pads, and related hardware; seat pads, and inspect for leaks.
625 Clean, inspect, and measure rotor thickness, lateral runout, and thickness variation; determine necessary action.
626 Remove and reinstall rotor.
627 Refinish rotor on vehicle; measure final rotor thickness.
628 Refinish rotor off vehicle; measure final rotor thickness.
629 RESERVED
630 Check brake pad wear indicator system operation; determine necessary action.
631 RESERVED
632 Check vacuum supply to vacuum-type power booster and check power assist operation.
633 Remove, clean, inspect, repack, and install wheel bearings, RACES and replace seals; install hub and adjust bearings.
634
Check parking brake cables and components including integral parking brake system for wear, binding, and corrosion; clean, lubricate, adjust
or replace as needed.
635 Check parking brake and indicator light system operation; determine necessary action.
636 Check operation of brake stop light system; determine necessary action.
637 RESERVED
638 Inspect and replace wheel studs.
639 Remove and reinstall sealed wheel bearing assembly.
640 Identify and inspect electronic brake control system components; determine necessary action.
641
Diagnose electronic brake control system electronic control(s) and components by retrieving diagnostic trouble codes, and/or using
recommended test equipment; determine necessary action.
642 RESERVED
643 Bleed the electronic brake control system hydraulic circuits.
644 Identify traction control/vehicle stability control system components.
645 Describe the operation of a regenerative braking system.
700 **ELECTRICAL/ELECTRONIC SYSTEMS**

701 RESERVED
702 Identify and interpret electrical/electronic system concern; determine necessary action.
703 RESERVED
704 RESERVED
705 Use wiring diagrams during diagnosis of electrical circuit problems.
706 Check electrical circuits with a test light; determine necessary action.
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707 Check electrical circuits using fused jumper wires; determine necessary action.
708 Locate shorts, grounds, opens, and resistance problems in electrical/electronic circuits; determine necessary action.
709 Measure and diagnose the cause(s) of excessive parasitic draw; determine necessary action.
710 Inspect and test fusible links, circuit breakers, and fuses; determine necessary action.
711 Inspect and test switches, connectors, relays, solenoid solid state devices, and wires of electrical/electronic circuits; perform necessary action.
712 Remove and replace terminal end from connector; replace connectors and terminal ends.
713 Repair wiring harness and/or solder (including CAN/BUS systems) repair
714 RESERVED
715 Identify location of hybrid vehicle high voltage circuit disconnect (service plug) location and safety procedures.
716 Perform battery state-of-charge test; determine necessary action.
717 Perform battery capacity test; confirm proper battery capacity for vehicle application; determine necessary action.
718 Maintain or restore electronic memory functions.
719 Inspect, clean, fill, and/or replace battery, battery cables, connectors, clamps, and hold-downs.
720 Perform battery charge.
721 Start a vehicle using jumper cables or an auxiliary power supply.
722
Identify electronic modules, security systems, radios, and other accessories that require reinitialization or code entry following battery
disconnect.
723 Perform starter current draw tests; determine necessary action.
724 Perform starter circuit voltage drop tests; determine necessary action.
725 Inspect and test starter relays and solenoids; determine necessary action.
726 Remove and install starter in a vehicle.
727 Inspect and test switches, connectors, and wires of starter control circuits; perform necessary action.
728 Differentiate between electrical and engine mechanical problems that cause a slow-crank or no-crank condition.
729 Perform charging system output test; determine necessary action.
730 Diagnose charging system for the cause of undercharge, no-charge, and overcharge conditions.
731 RESERVED
732 Remove, inspect, and install generator (alternator).

733 RESERVED
734 RESERVED
735 Inspect, replace, and aim headlights and bulbs.
736 RESERVED
737 RESERVED
738 RESERVED
739 Diagnose the cause of incorrect operation of warning devices and other driver information systems.
740 Diagnose incorrect horn operation; perform necessary action.
741 Diagnose incorrect wiper operation; diagnose wiper speed control and park problems; perform necessary action.
742 Diagnose incorrect washer operation; perform necessary action.
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743 Diagnose incorrect operation of motor-driven accessory circuits; determine necessary action.
745 RESERVED
746 Remove and reinstall door panel.
747 Use a digital multimeter (DMM).
800 **ENGINE PERFORMANCE**
801 RESERVED
802 Identify and interpret engine performance concern; determine necessary action.
803 RESERVED
804 RESERVED
805 Identify components and inspect engine assembly for fuel, oil, coolant, and other leaks, determine necessary action.
806 Diagnose abnormal engine noise or vibration concerns; determine necessary action.
807 Diagnose abnormal exhaust color, odor, and sound; determine necessary action.
808 Perform engine absolute (vacuum/boost) manifold pressure tests; determine necessary action.
809 Perform cylinder power balance test; determine necessary action.
810 Perform cylinder cranking and running compression tests; determine necessary action.
811 Perform cylinder leakage test; determine necessary action.
812 Diagnose engine mechanical, electrical, electronic, fuel, and ignition concerns; determine necessary action.
813 Verify engine operating temperature; determine necessary action.
814
Perform cooling system pressure tests; check coolant condition; inspect and test radiator, pressure cap, coolant recovery tank, and hoses;
perform necessary action.
815 RESERVED
816 Retrieve and record diagnostic trouble codes, OBD monitor status, and freeze frame data; clear codes when applicable.
817

Diagnose the causes of emissions or drivability concerns with stored or active diagnostic trouble codes; obtain, graph, and interpret scan tool
data.
818 Access and use service information to perform step-by-step diagnosis.
819 Perform active tests of actuators using a scan tool; determine necessary action.
820 Describe the importance of running all OBDII monitors for repair verification.
821 RESERVED
822 Inspect and test ignition primary and secondary circuit wiring and solid state components; test ignition coil(s); perform necessary action.
823 Inspect and test crankshaft and camshaft position sensor(s); perform necessary action.
824 Inspect, test, and/or replace ignition control module, powertrain/engine control module; reprogram as necessary.
825
Diagnose hot or cold no-starting, hard starting, poor drivability, incorrect idle speed, poor idle, flooding, hesitation, surging, engine misfire,
power loss, stalling, poor mileage, dieseling, and emissions problems; determine necessary action.
826 Inspect and test fuel pumps and pump control systems for pressure, regulation, and volume; perform necessary action.
827 Replace fuel filters.
828 Inspect throttle body, air induction system, intake manifold and gaskets for vacuum leaks and/or unmetered air.

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829 Inspect and test fuel injectors.
830 Verify idle control operation.
831
Inspect the integrity of the exhaust manifold, exhaust pipes, muffler(s), catalytic converter(s), resonator(s), tail pipe(s), and heat shield(s);
perform necessary action.
832 RESERVED
833 Inspect, test and service positive crankcase ventilation (PCV) filter/breather cap, valve, tubes, orifices, and hoses; perform necessary action.
834 RESERVED
835
Inspect, test, service and replace components of the EGR system, including electrical/electronic sensors, controls, and wiring, EGR tubing,
exhaust passages, vacuum/pressure controls, filters and hoses; perform necessary action.
836 RESERVED
837 Inspect and test mechanical components of secondary air injection systems; perform necessary action.
838 Inspect and test electrical/electronically-operated components and circuits of air injection systems; perform necessary action.

839 Inspect and test catalytic converter efficiency.
840 RESERVED
841 Inspect and test components and hoses of the evaporative emissions control system; perform necessary action.
842 Interpret diagnostic trouble codes (DTCs) and scan tool data related to the emissions control systems; determine necessary action.
843 Remove and replace timing belt; verify correct camshaft timing.
844 Remove and replace thermostat and gasket/seal.
845 Inspect and test mechanical/electrical fans, fan clutch, fan shroud/ducting, air dams, and fan control devices; perform necessary action.
846 Perform engine oil and filter change.
900 ENGINE REPAIR
901 RESERVED
902 Verify operation of the instrument panel engine warning indicators.
903 Install engine covers using gaskets, seals, and sealers as required.
904 RESERVED
905 Adjust valves (mechanical or hydraulic lifters).
906 Inspect, replace, and adjust drive belts, tensioners, and pulleys; check pulley and belt alignment.
907 Inspect and test coolant; drain and recover coolant; flush and refill cooling system with recommended coolant; bleed air as required.
1000 AUTOMATIC TRANSMISSION AND TRANSAXLE
1001 RESERVED
1002 Check fluid level and fluid condition in a transmission or a transaxle equipped with a dip-stick.
1003 Check fluid level and fluid condition in a transmission or a transaxle not equipped with a dip-stick.
1004 Drain and replace fluid and filter(s).
1005 Identify drivetrain components and configuration.
1006 Inspect, adjust, and/or replace external manual valve shift linkage, transmission range sensor/switch, and/or park/neutral switch.

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1007 Inspect for leakage at external seals, gaskets and bushings.
1008 Inspect, replace and/or align powertrain mounts.
1100 MANUAL DRIVE TRAIN AND AXLES
1101 RESERVED
1102 Drain and refill manual transmission/transaxle and final drive unit.
1103 Check and adjust clutch master cylinder fluid level.
1104 Check for system leaks.
1105 Check and adjust differential housing fluid level.
1106 Drain and refill differential housing.
1107 Identify and inspect and/or replace manual drivetrain and axle components and configuration.
1200 HEATING AND AIR CONDITIONING
1201 RESERVED

1202 RESERVED
1203 Inspect A/C condenser for airflow restrictions.
1204 Inspect engine cooling and heater systems hoses.
1205 Inspect A/C-heater ducts, doors, hoses, cabin filters, and outlets.
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Primary Textbook(s) Used for this Course of Instruction

Name of Textbook: **James E. Duffy: Modern Automotive Technology**

Textbook ISBN #: **ISBN**-10: 1619603705

Textbook Publisher &Year of Publication: Goodheart-Wilcox, 2013

Curriculum Textbook is utilized in (title of course): Automotive Technology Levels 1, 2, 3