**Smiths Station High School**

**Automotive Technology: Maintenance and Light Repair-C&D**

**Course Syllabus**

**Maintenance and Light Repair Program Description**

The Maintenance and Light Repair (MLR) program falls under the Transportation, Distribution, and Logistics: Automotive Services pathway. MLR consists of four (4) one credit courses. These courses are MLR-A, MLR-B, MLR-C, and MLR-D. The first two courses (A&B) will be taken in 10th or 11th grade and the final two courses (C&D) will be taken in 11th or 12th grade. All courses in the MLR program are taught by an industry certified (ASE) instructor.

**Objective**

Upon successful completion of the MLR program, students will be prepared to enter the workforce as an entry-level automotive technician or to continue advanced training in automotive technology at a post-secondary institution. Students who complete the program will also be prepared to take the Automotive Service Excellence (ASE) Student Certification exam to earn this student credential.

**Employment Outlook**

According to the U.S. Department of Labor, employment of automotive service technicians and mechanics is projected to grow 5 percent from 2014 to 2024, about as fast as the average for all occupations. Job opportunities for qualified jobseekers should be good. In 2014, there were 740,000 people employed as automotive technicians. The 2015 median pay was $37,850 per year, or $18.20 per hour.

**Maintenance and Light Repair Program Content Standards**

Standard 1: Supplemental Tasks

Standard 2: Engine Repair

Standard 3: Automatic Transmission and Transaxle

Standard 4: Manual Drive Train and Axles

Standard 5: Suspension and Steering

Standard 6: Brakes

Standard 7: Electrical/Electronic Systems

Standard 8: Heating and Air Conditioning

Standard 9: Engine Performance

**Maintenance and Light Repair-C&D Courses**

School Year: 2018-2019

Program: Maintenance and Light Repair

Course: MLR-C&D

Credits: 2 (1 for MLR-C and 1 for MLR-D)

Course Numbers: 570073 (MLR-C); 570074 (MLR-D)

Teacher/Contact: Mr. Harold Gauer; 334-664-4090; [gauer.harold@lee.k12.al.us](mailto:gauer.harold@lee.k12.al.us)

Location: Career Tech Building (Building 4); Room 401

**Course Description and Time Allocation**

MLR-C&D are the final two (2) of four (4) courses required to complete the MLR program. Students who will be in the 11th or 12th grade and wish to complete the MLR program (4 courses) must have taken the first two courses (A&B) during a previous school year. Students will attend MLR-C class every day for the first semester and MLR-D every day for the second semester. **There is a $40.00 fee for this combined course.**

**Course Objectives**

This combined course will provide students with a foundational knowledge and skills regarding safety, employability skills, brakes, electrical/electronic systems, heating & air conditioning, and engine performance (Standards 6-9). Upon successful completion of this course, students will be able to perform basic diagnosis and basic repairs of the above mentioned automotive systems and will have completed the entire MLR program. Students will be prepared to enter the work force as an entry-level technician or to further their training as an automotive technician.

**Instructional Materials Used**

Textbook: *Fundamentals of Automotive Technology: Principles and Practice* by Jones and Bartlett Learning

Research Software: AllData

Training Software: Todays Class Online Learning System and Instructor Resource CD

**Grading**

Grading Scale: Criteria:

A=100-90 30% Classwork/Homework

B=89-80 30% Task Sheets

C=79-70 30% Work Ethics

D=69-60 10% Quizzes and Tests

F=59-0

**Procedures For Make-Up Work**

A student will be able to make up any work not completed, provided the student has an excused absence for the missing assignments. Excused absences must be approved by the attendance office. Students have three (3) days to complete any missed assignments. **It is the student’s responsibility to ask for make-up work.**

**MLR-C: Course Outline (First Semester)**

**Standard 6: Brakes**

**Unit 1: General**

**Unit 2: Hydraulic System**

**Unit 3: Drum Brakes**

**Unit 4: Disc Brakes**

**Unit 5: Power-Assist Units**

**Unit 6: Miscellaneous (Wheel Bearings, Parking Brakes, Electrical, Etc.)**

**Unit 7: Electronic Brakes, and Traction and Stability Control Systems**

**Standard 7: Electrical/Electronic Systems**

**Unit 1: General**

**MLR-D: Course Outline (Second Semester)**

**Standard 7: Electrical/Electronic Systems (cont).**

**Unit 2: Battery Service**

**Unit 3:** **Starting System**

**Unit4: Charging System**

**Unit 5: Accessories**

**Standard 8: Heating and Air Conditioning**

**Unit 1:** **General**

**Unit 2: Refrigeration System Components**

**Unit 3:** **Heating, Ventilation, and Engine Cooling Systems**

**Unit 4:** **Operating Systems and Related Controls**

**Standard 9: Engine Performance**

**Unit 1: General**

**Unit 2:** **Computerized Controls**

**Unit 3:** **Fuel, Air Induction, and Exhaust Systems**

**Unit 4: Emissions Control Systems**

**Accommodations For Individuals With Disabilities**

Smiths Station High School does not discriminate on the basis of race, color, national origin, sex, religion, or disability in admission to education programs or activities in accordance with Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990. Smiths Station High School shall provide, upon request by a qualified disabled individual, reasonable accommodations including auxiliary aids and services necessary to afford individuals with a disability an equal opportunity to participate.

**General Rules**

* Students will report to class on time and be in his/her assigned seat
* Students will act in a safe manner at all times
* Students will respect others and their property at all times
* Students will use computers in an appropriate manner
* Students will use appropriate language at all times
* Students will not enter shop without instructor’s permission
* Students must have a valid driver’s license (not learners permit) to start or move vehicles
* No food or drink in the shop
* Do not leave class early
* No talking while instructor is talking
* No sitting in or on shop vehicles (this includes golf carts)
* Use all tools and equipment in an appropriate manner
* If you break a tool due to improper use, you will purchase a replacement
* No horseplay in classroom or shop
* This is not a class to learn how to be a stuntman, wrestler, skateboarder, mountain climber, sports star, comedian, etc. Those type activities should be performed off campus.

**Automotive Technology Shop Safety Rules/Procedures**

1. Safety glasses must be worn **AT ALL TIMES** while working in the shop.
2. No running or horseplay in the shop.
3. Report all accidents to instructor immediately regardless of how minor they are.
4. Drive in and out of stalls slowly and always honk horn before backing out of the stall.
5. Make sure the vehicle’s brakes are functioning before moving in/out of shop. If the brakes are not functioning, the vehicle must be pushed into the shop.
6. Use the shop exhaust system while vehicle are running inside the shop.
7. Do not work on any engines when “hanging” on an engine hoist. Engines must be on stands to work on.
8. Do not work on a car that is supported by floor jack. Use safety jack stands.
9. Do no block doors, electrical panels, passageways, or fire extinguishers.
10. Students must be properly dressed at all times while in the shop. No loose clothing (this includes “sagging” pants) or open-toed shoes (sandals, flip-flops, crocs, etc.).
11. Rings, watches, and other jewelry must be removed before performing any hands-on work.
12. Clean up all spills immediately.
13. Put dirty rags in approved container.
14. Do not used compressed air to clean off your clothes.
15. Report broken tools or equipment at once.
16. Do not use chrome sockets on impact wrenches.
17. No eating or drinking in the shop or in vehicles.
18. Make sure hands and clothing are clean before entering any vehicle.
19. Shop privileges are open only to students currently enrolled in the automotive program.
20. Only the instructor or students enrolled in the automotive program may drive a vehicle in or out of the shop.
21. All class periods begin in the classroom. Shop assignments, as well as any other special instructions, will be given in the classroom.
22. Get permission and proper instruction from the instructor before using any hoist, lift, or jack.
23. Use proper lift points when lifting a vehicle. If unsure, ask the instructor.
24. Always engage the locks on vehicle lifts before working under a vehicle.
25. Only the person working under the vehicle can disengage the locks on the lift.
26. When working under the hood with engine running, be aware of rotating parts. Students with long hair must contain hair in a safe manner.
27. Any special tools/equipment must be signed out from the tool room and signed back in before cleanup begins.
28. Always use the right tool for the right job.
29. On days where shop work is performed, ALL students must go to the shop and remain in the shop until it is time to return to the class.
30. There will be no standing around outside of shop in the parking lot.

**If the rules are not followed the disciplinary actions are as follows.**

1st offense- Verbal warning

2nd offense- Written warning **AND** a 500 word written assignment on why it is important to follow rules.

3rd offense- Contact Parent/Guardian

4th offense- After school detention

5th offense- Referral to office

**Supplies List**

2” three ring binder with dividers

Notebook paper

Pens (blue or black ink only) and #2 pencils

**Please print off last page and fill out the information. Return to instructor by 8/17/2018.**

I have read and understand the general classroom rules, the shop rules, the course syllabus, and the supplies list.

Parent/Guardian Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Parent Guardian Name (Print):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Address:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Contact Information

Telephone: Home:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Work:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Cell:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

E-mail:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Any other comments please note them below. Thank you!