

East Brunswick Magnet School
Automotive MLR SYLLABUS (Grades 9-12)
Career and Technical Education
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Automotive Maintenance & Light Repair
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**COURSE
DESCRIPTION**

This course is designed to give students a comprehensive understanding of automotive services, maintenance, and repairs. It covers various topics related to automotive systems, diagnostics, and servicing. Through classroom instruction, hands-on lab work, and practical experience, students will develop the skills and knowledge needed to work in the automotive service industry.

TEXTBOOK

CDX Maintenance & Light Repair (Online Textbook)

**REQUIRED
SUPPLIES**

- Textbook: (CDX Online Maintenance & Light Repair)
- Safety gear (such as gloves, hard-soled shoes, and safety glasses)
- Basic hand tools and equipment
- Access to a computer and the Internet for research and assignments

GRADING

- Quizzes/Tests/Lab Work: 30%
- Class/Shop Participation/Homework/Projects: 70%
- Extra Credit - Tech Expo/Project-Based Assignments

Failure to complete homework by the deadline will result in a fifty percent penalty, a fifty percent daily participation penalty, and the forfeiture of shop privileges until the homework is complete.

A lack of appropriate classroom attire will affect a student's participation and the corresponding grade.

District Policy - [5600](#) Code of Conduct

Students who cheat on a test, plagiarize, misuse AI, or refuse to submit an assignment may suffer a reduced grade due to disqualified work.

Marking Period

Classwork/Homework/Projects 70%

Tests/Quizzes/Labs 30%

All assignments will be points-based (not percentage)

GRADING SCALE

Middlesex County Magnet Schools policy [2624](#) - Grading System

A+ 100-98	B+ 89-86	C+ 79-76	D 69-65
A 97-92	B 85-82	C 75-72	F 64 and below
A- 91-90	B- 81-80	C- 71-70	

PARTICIPATION

Automotive Shop Daily Participation Rubric

4 - Excellent:

- **Engagement:** Actively participates in all shop activities and discussions, showing high enthusiasm and interest.
- **Preparedness:** Always arrives fully prepared with the necessary tools, materials, and a thorough understanding of the day's objectives.
- **Teamwork:** Consistently collaborates effectively with peers, demonstrating leadership and offering constructive feedback.
- **Safety & Procedures:** Adheres to all safety protocols and shop procedures without reminders and proactively assists in maintaining a safe and organized workspace.

3 - Good:

- **Engagement:** Participates in most shop activities and discussions with a positive attitude.
- **Preparedness:** Usually arrives prepared with most necessary tools and materials and has a good understanding of the day's objectives.
- **Teamwork:** Works well with others and contributes to the team effort, occasionally needing minor prompts to stay on track.
- **Safety & Procedures:** Generally follows safety protocols and shop procedures with occasional reminders needed and helps maintain a safe and organized workspace.

2 - Satisfactory:

- **Engagement:** Participates in some shop activities and discussions but may need occasional encouragement to stay engaged.
- **Preparedness:** Sometimes arrives without all necessary tools or materials and may require additional time to understand the day's objectives.
- **Teamwork:** Cooperates with peers but may need reminders to contribute effectively or work collaboratively.
- **Safety & Procedures:** Needs frequent reminders to follow safety protocols and shop procedures, and sometimes fails to help maintain a safe and organized workspace.

1 - Needs Improvement:

- **Engagement:** Rarely participates in shop activities and discussions, showing little enthusiasm or interest.
- **Preparedness:** Frequently arrives unprepared with missing tools or materials and struggles to grasp the day's objectives.
- **Teamwork:** Has difficulty working with others and often requires significant prompts to contribute or collaborate effectively.
- **Safety & Procedures:** Frequently disregards safety protocols and shop procedures, needs constant reminders, and does not contribute to maintaining a safe and organized workspace.

COURSE OVERVIEW

Course Objectives:

By the end of this course, students should be able to:

1. Demonstrate a fundamental understanding of automotive systems, including engines, transmissions, electrical, suspension and steering, heating and air conditioning systems, engine performance, and braking systems.
2. Identify common automotive problems and perform diagnostic procedures to troubleshoot issues.
3. Perform basic automotive maintenance tasks such as oil changes, tire rotations, and fluid checks.
4. Understand the principles of safe and environmentally responsible automotive servicing.
5. Utilize automotive tools and equipment effectively and safely.
6. Interpreting service manuals and technical documentation.
7. Demonstrate effective communication and teamwork skills in a professional automotive service environment.
8. Prepare for entry-level positions in the automotive service industry or further education in automotive technology.

Course Topics:

9. Introduction to Automotive Technology
10. Automotive Safety and Environmental Practices
11. Engine Systems and Operation
12. Electrical Systems and Wiring Diagrams
13. Fuel and Emission Systems
14. Braking and Suspension Systems
15. Steering and Alignment
16. Heating & Air Conditioning
17. Automatic and Manual Transmission maintenance
18. Diagnostic Tools and Procedures

19. Preventive Maintenance and Inspections

20. Customer Service and Communication in Automotive Service

ASE MLR Task Coverage Table

Below is a comprehensive cross-reference table showing where each ASE MLR task is covered in the curriculum:

Engine Repair

ASE MLR Task	Year	Unit	Description
A.1-A .3	1	2	Basic vehicle systems overview
A.4- A.10	2	2	Engine mechanical assessment
B.1-B .3	2	2	Engine mechanical assessment
C.1-C .3	1	4	Lubrication and cooling systems
D.1-D .3	1	4	Lubrication and cooling systems

Automatic Transmission and Transaxle

ASE MLR Task	Year	Unit	Description
A.1-A .5	3	6	Automatic transmission fundamentals

Manual Drive Train and Axles

ASE MLR Task	Year	Unit	Description
A.1-A .3	3	5	Manual drivetrain and axle basics
B.1	3	5	Manual drivetrain and axle basics
C.1-C .4	3	5	Manual drivetrain and axle basics

Suspension and Steering

ASE MLR Task	Year	Unit	Description
A.1-A .5	3	6, 4	3
B.1	2	6, 4	3
C.1-C .6	2	7, 4	3
D.1-D .2	2	7, 4	3
E.1-E. 2	1	5, 4	3
F.1-F. 7	2	8, 4	3

Brakes

ASE MLR Task	Year	Unit	Description
A.1-A .3	1	6, 4	4
B.1-B .10	3	2, 4	4
C.1-C .5	3	2, 4	4
D.1-D .3	3	3, 4	4
E.1-E. 3	3	3, 4	4

Electrical/Electronic Systems

ASE MLR Task	Year	Unit	Description
A.1-A .7	1	3, 3	1, 4
A.8	1	2	Basic vehicle systems overview

B.1-B .3	2	3	Battery and starting systems
C.1-C .2	2	4	Charging system service
D.1-D .8	2	5	Lighting and accessory systems

Heating, Ventilation, and Air Conditioning

ASE MLR Task	Year	Unit	Description
A.1-A .8	3	4, 4	5
B.1-B .2	3	4, 4	5

Engine Performance

ASE MLR Task	Year	Unit	Description
A.1-A .8	4	1	Engine performance basics
B.1-B .3	4	1	Engine performance basics
C.1-C .2	4	1	Engine performance basics

Safety

ASE MLR Task	Year	Unit	Description
A.1-A .7	1	1	Safety and shop operations
A.8	1	2	Basic vehicle systems overview
A.1-A .8	2	1	Advanced safety and environmental practices

Grade 9 Content Study - Automotive Safety & Foundation Standards -

9.3.12.TD.1,9.3.12.TD.2,9.3.12.TD.3,9.3.12.TD.4,9.3.12.TD.5,9.3.12.TD.6,9.3.12.TD-HSE.1,9.3.12.TD-SAL.1,9.3.12.TD-SAL.2

Grade 10 Content Study - Engine Repair, Steering & Suspension or Engine Performance & Brakes Standards -

9.3.12.TD.1,9.3.12.TD.2,9.3.12.TD.3,9.3.12.TD.4,9.3.12.TD.5, 9.3.12.TD.6, TD-HSE.1,9.3.12.TD-SAL.1,9.3.12.TD-SAL.2,9.3.12, 9.3.12.TD-OPS.2, 9.3.12.TD-OPS.3, 9.3.12TD-SYS.2, 9.3.12.TD-SYS.3

Grade 11 Content Study - Engine Repair, Steering & Suspension or Engine Performance & Brakes Standards - 9.3.12.TD.1,9.3.12.TD.2,

9.3.12.TD.3,9.3.12.TD.4,9.3.12.TD.5, 9.3.12.TD.6, TD-HSE.1,9.3.12.TD-SAL.1,9.3.12.TD-SAL.2,9.3.12, 9.3.12.TD-OPS.2, 9.3.12.TD-OPS.3,9.3.12.TD-SYS.2, 9.3.12.TD-SYS.3

Grade 12 Content Study - Automotive Electrical, Automotive Heating & Air Conditioning - 9.3.12.TD.1,9.3.12.TD.2,9.3.12.TD.3,9.3.12.TD.4,9.3.12.TD.5,

9.3.12.TD.6, TD-HSE.1,9.3.12.TD-SAL.1,9.3.12.TD-SAL.2,9.3.12, 9.3.12.TD-OPS.2, 9.3.12.TD-OPS.3, 9.3.12.TD-SYS.3

CLASSROOM RULES

1. Seating Arrangement

- **Assigned Seats:** Please sit in the same seat every day. This helps me learn everyone's name more efficiently.
- **Seat Changes:** I reserve the right to move your seat if your behavior necessitates it.

2. Entering the Classroom

- **Immediate Actions:** Come in and SIT DOWN!
 - **Attendance:** Be alert when attendance is taken. If I do not see or hear you, you will be marked absent.
 - **Safety Awareness:** Be aware of potential dangers on benches and lifts, including hot metals, wet paint, and loose parts.
 - **Parts on Lifts/Floors:** Misplacing parts can disrupt the reassembly of repaired components. Ensure you sit down promptly to avoid causing accidents.

3. Attendance

- **Daily Attendance:** Attendance is taken daily.

- **Excessive Absences:** Per the student handbook, excessive absences may result in forfeiting credit for this course.
- **No Excuses:** You will be marked absent if your name is called and you do not respond, regardless of where you are.
- **Approval for Absence:** You must have prior approval from me if you need to stay with another teacher, even if you have a note.
- **Field Trip Forms:** Must be submitted at least one day before the event. I will not sign slips on the day of the trip.

4. Tardiness

- **Importance of Punctuality:** Being late is taken very seriously. In the workplace, chronic lateness can lead to termination.
- **Treat Class Like a Job:** Employers do not tolerate tardiness, so treat this class equally.
- **Consequences:** Every two unexcused tardies equal one unexcused absence. This rule is strictly enforced.

5. Cell Phones, AirPods, and Music Players

- **Cell Phone Usage:** Cell phones are only allowed if approved by me for specific tasks (e.g., taking pictures for reference or watching a video related to repairs).
 - **First Offense:** I will receive the phone and return it without a referral at the end of the period.
 - **Second Offense:** The phone will be confiscated and turned in to the office with a referral.
 - **Refusal to Comply:** Refusal to hand over the device will result in insubordination and a referral to the office.
- **AirPods:** AirPods are not to be worn in class. If they are seen, they will be confiscated. The same discipline process applies to cell phones.
- **Music Devices:** Listening to music in the auto shop is a major safety hazard and is strictly prohibited.

6. Materials Required for Class

- **Tool #1:** Always bring a pen. I will not lend writing instruments. If you don't have a pen, borrow one from a classmate.
- **Notebook and Folder:** Maintain a dedicated notebook and folder for this class to organize handouts and notes.
- **Appropriate Clothing:** Bring an old shirt, pants, and boots to avoid getting dirty. Your street clothes may get soiled during class. Lockers are provided; bring a personal padlock, or one will be provided to store your items securely.

- o **No Excuses:** Getting dirty is part of the class—be prepared.

- Students are not permitted to use equipment they have not been trained in.
- Any injury, including a cut, burn, fall, etc., must be reported immediately to your instructor.
- All instructor-established safety procedures must be followed at all times.
- All applicable OSHA and PEOSH regulations must be followed
- All required Personal Protective Equipment must be worn during hands-on instruction
- Subject to change as needed, with prior notice to students and parents

**REQUIRED
CLASSROOM
ATTIRE AND
PERSONAL
PROTECTIVE
EQUIPMENT**

- Each student must wear ANSI Z87 or higher-rated safety glasses at all times in the shop as per NJ State Law 18A
 - **18A:40-12.1. Protective eye devices are required for teachers, pupils, and visitors in certain cases**
 - The board of education of every school district shall require each pupil and teacher in the public schools of the district to wear industrial quality eye protective devices while attending classes in vocational or industrial art shops or laboratories in which caustic or explosive chemicals, hot liquids, or solids, hot molten metals, or explosives are used or in which welding of any type, repair or servicing of vehicles, heat treatment or tempering of metals, or the milling, sawing, stamping or cutting of solid materials, or any similar dangerous process is taught, exposure to which might have a tendency to cause damage to the eyes. Visitors to such classrooms or laboratories shall also wear such protective devices.
- Students are not permitted to wear pajamas or sweatpants during hands-on lab instruction.
- Students are not permitted to wear slides or slippers during hands-on lab instruction.
- Students must wear appropriate footwear, including non-slip shoes or boots
- Students must wear appropriate clothing that does not expose tender skin. (Tender skin is defined as anything from the collarbone to the ankle.)
- Students must wear a hard hat, respirator, eye protection, and ear protection as required at all times in the lab.

Students who are not dressed in the above-designated safety attire or required personal protective equipment will not be permitted to participate in hands-on instruction. Students will be given an alternate assignment, and the day's participation grade will be reduced by 30%. If the assessment is hands-on, the student must complete the assessment the following day. Students who continually violate the dress code may be removed from the program.

WORK BASED LEARNING REQUIREMENTS

All Students are required to abide by the Guidelines in the Middlesex Magnet Schools Work-Based [Learning Handbook](#). *All Job Shadowing, Community Service, Volunteering, Service Learning, Internship, and Cooperative Education Experience must be **within the CIP Code of the student's approved Program of Study** and the required documentation in the Snapshot Table in the Work-Based Learning Handbook on page 15 must be completed.*

Grade 9

All grade 9 students must successfully complete industry-specific **OSHA 10** during *Marking Period 2*. (*Culinary Students will complete Servsafe Food Handler MP2 and OSHA 10 MP3). Students who are Ability Diverse may be administered an alternate Shop Safety Assignment based on their IEP or 504; however, all students must receive the required scaffolding and support to successfully complete OSHA 10 certification by the end of 9th grade. Students will be permitted to utilize shop “tools”, at the discretion of the Director of Career and Technical Education until OSHA 10 certification has been successfully completed.

Grade 10

All Grade 10 Students must participate in the end-of-year ASE Testing of content areas studied.

Grade 11

All Grade 11 Students must complete the Toyota/Lexus Maintenance & Light Repair Certification and participate in end-of-year ASE Testing of the content areas studied.

Grade 11 students who are at least 16 years of age on January 1st of their Junior Year are eligible to participate in Internship or Cooperative Education experiences 2 days each week beginning on February 1st of the current school year, if they have successfully completed:

- a Dual Enrollment course in their Program of Study, or earned a [Tier II Industry Valued Credential](#) as identified by the NJ DOE and recognized on the district IVC list.
- On track to graduate

All Grade 11 students who do not participate in an internship or Cooperative Education experience must participate in a Simulated Workplace Experience during their Junior Year. The requirements will each count as an assessment weighted as an average exam.

Grade 11 students who participate in an Internship or Cooperative Education Experience must report their attendance as required through PathwaysOs.

Grade 12

Grade 12 students who are at least 16 years of age prior to October 1st of their Senior Year, are on-track for graduation, **and** have *completed a dual credit course in their Program of Study or earned a [Tier II Industry Valued Credential](#)* as identified on the district IVC list are eligible to participate in a(n) Internship, Cooperative Education, Pre Apprenticeship or Youth Apprenticeship (May begin on July 1 of the student's senior

year with approval from the Director of Career and Technical Education). Participation in these programs is at the discretion of the Director of Career and Technical Education. Senior eligibility may be re-evaluated at the end of Marking Period 2 for the 2nd semester. Students enrolled in Pre-Apprenticeships or Youth Apprenticeships are exempt from the Dual Credit or Tier II Industry Valued Credential requirement.

The placement will count as an assessment weighted as an average exam grade for students during each marking period in which they are enrolled. Students must sign out in the main office.

The above placements may begin on October 1st after students have completed the required soft skills training and occur 5 days per week with the following exceptions:

- Grade 12 students who participate in an Internship or Cooperative Education Experience must report their attendance as required through PathwaysOs.
- Students will be required to report to school every other Wednesday (bi-weekly) to review graduation progress, participate in workshops, evaluate placements, mentor underclassmen, serve as a teaching assistant, and perform any other activities as deemed necessary by the Director of Career and Technical Education.
- Students will be required to report to school for applicable Industry Presentations and Field Trips.
- Students will be required to report to school for State Mandated testing
- Students will be required to attend non-CTE courses on time and daily. Any student who meets the criteria for chronically absent, as defined by the NJDOE, may have their placement revoked by the Director of Career and Technical Education.
- Students who do not maintain a C in their non-CTE courses may be assigned tutoring. Students who do not participate in tutoring sessions as required may have their placement revoked by the Director of Career and Technical Education.
- Students who do not maintain satisfactory progress toward the goals established in their Student Learning Plan may have their placement revoked by the Director of Career and Technical Education.
- Grade 12 students must participate in the end-of-year ASE Testing of the content studied areas.

MAKE UP WORK:

Middlesex County Magnet Schools Board [Policy and Regulation 5200](#)

Students that are absent from school for any reason are responsible for the completion of assignments missed because of their absence. The parent or student is responsible for requesting missed assignments and any assistance required. Teachers will cooperate in the preparation of home assignments for students who anticipate an absence of five or more school days in duration. **Students will be allowed two days to make up missed work for each one day of absence.**

In accordance with N.J.S.A. 18A:36-14, a student who is absent from school for observing a religious holiday has the right to take an alternate test or examination

that was missed because of the absence provided there is a written excuse of such absence signed by the parent.

Middlesex County Magnet School [Policy 2624](#) - Grading System

If the make-up work is not completed within the required time, a failing grade for the marking period will be given for the assignments that were not completed, which may result in a failing grade for the marking period.

**LATE WORK
POLICY:**

Late homework will be penalized by 50%, and shop privileges will be suspended until it is completed. The student's daily participation grade will also be penalized by fifty percent until the homework is completed.

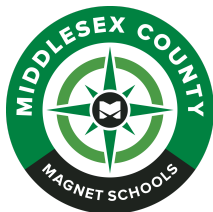
**ELECTRONIC
DEVICE POLICY:**

[District Policy 5600](#) - Student Code of Conduct

Students are expected to engage in instruction without interruptions from any electronic device, including but not limited to cell phones, computers, watches, or VR glasses. Devices should be stored in a student's bag or locker unless express permission is provided by the instructor.

Infraction	1st Occurrence	2nd Occurrence	3rd Occurrence
Using an electronic device in an inappropriate manner	2 Administrative detentions	Device confiscated and 3 Administrative detentions	Device confiscated 1 day suspension

PLEASE RETURN THE NEXT PAGE WITH SIGNATURE BY



East Brunswick Magnet School
Automotive Maintenance & Light Repair
SYLLABUS

Kenneth Colavito
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I have read and understood the course policies and expectations.

Print student name

student signature

date

parent/guardian signature

date

parent email

parent phone number

Which form of communication is preferred (circle one):

Email

Phone

