



AUME-904: LIGHT DUTY AUTOMOBILE SERVICE TECHNICIAN

Effective Term

Fall 2026

BOT Approval Date

12/11/2025

Discipline

AUME - Automotive/Transportation Tech

Course Number

904

Course Title

Light Duty Automobile Service Technician

Short Title

Light Duty Service Tech

Credit Status (CB 04)

N - Noncredit

Non-Credit Hours**Minimum Contact Hours**

48

Maximum Contact Hours

96

Distance Education

Yes

Distance Education**Distance Education Type**

Both Fully Online and Hybrid Online

Fully Online Delivery Requirements:

- a. Students must be notified via the college schedule of classes and the syllabus for the class if proctored tests are required for this course
- b. Any planned face-to-face meetings, such as an orientation or study session, must be optional
- c. The MSJC curriculum committee requires the use of accessible, asynchronous discussion as a component of every fully online course

Are you using publisher content?

No

Regular Substantive Interaction

Instructor-to-student, student-to-student, and student-to-content contact shall be distributed in a manner that will ensure regular substantive interaction (RSI) is maintained not only weekly but also for the duration of the course. Instructor interactions should be equivalent in time, quality and consistency to the engagement students would receive in a face-to-face course—for example, through announcements, discussion participation, personalized feedback, video messages, or other instructional communications. Instructors are expected to be responsive to student inquiries within a 24-72 hour time frame excluding holidays. RSI will be maintained through a variety of methods:

- Orientation - Students must be oriented to the online and face-to-face portions at the start of the course.
- Announcements - Announcements using the course management system must be posted at least weekly to keep students current on course events, due dates, materials, etc.
- Discussion Forums - Content-related discussion forums within the designated CMS will include appropriate instructor participation and will be initiated and maintained, with timely feedback provided. Instructors are required to monitor the discussions and related activities to provide guidance and direction. Open-ended discussion boards may be used to further learning and interaction.
- MSJC Communication – Instructor will use MSJC-administered communication tools



(such as email or the designated CMS communication tools) to regularly communicate with and provide ease of access to students.

- **Timely Feedback** - Timely feedback on student work will be provided by the instructor, which may include comments and/or rubrics, within the Grades area of the designated CMS.
- **Scheduled Meetings** – Hybrid and synchronous courses will meet at regularly scheduled times.

ADA Compliance - All course interactions and content must be designed with accessibility in mind and meet ADA requirements.

Catalog Description

This course provides theoretical knowledge of and hands-on experience in performing the tasks required to maintain and perform light duty repairs on a gasoline powered automobile. It is a one semester course designed to allow learners fast entry into the workforce as a light duty automotive maintenance and repair technician.

Codes

TOP Code (CB 03)

0948.00* - *Automotive Technology

CIP Code

47.0604 - Automobile/Automotive Mechanics Technology/Technician.

Repeatability Code

Yes

Number of times course can be repeated

Unlimited

Reason for Repeatable

Non-credit

Grading Option

Letter grade OR P/NP

Minimum Qualifications

Minimum Qualifications	And/Or
Auto Body Technology	Or
Automotive Technology	Or
NC/Vocational (short-term)	End

Learning Objectives

Learning Objectives

Learning Objective
1. Analyze career opportunities and pathways within field to make informed professional decisions in the automotive field.
2. Formulate strategies for navigating post-secondary education and career development in the automotive field.
3. Evaluate the role of technology on modern automotive systems and repair practices.
4. Assess vehicle computer control systems using scan tool data and determine appropriate diagnostic or repair strategies.
5. Demonstrate technical skills to perform automotive tasks accurately and safely.
6. Apply inclusive practices to engage and support colleagues and customers by demonstrating effective communication and teamworks skills in a diverse automotive workplace.
7. Differentiate among various automotive systems, components, and technologies to understand their functions, interactions, and roles in vehicle performance and maintenance.

Learning Outcome Information

Course Learning Outcomes

Learning Outcome
1. Students will analyze service manuals, technical service bulletins, and product information to determine procedures for automotive repair.
2. Students will evaluate vehicle fluid levels and conditions according to manufacturer specifications.
3. Students will assess the condition of vehicle filters to determine appropriate maintenance or replacement needs.
4. Students will analyze vehicle computer control systems using scan tool data.
5. Students will prepare the vehicle for safe return to the customer following all service procedures.
6. Students will diagnose the operating condition of various under-car systems.
7. Students will demonstrate culturally responsive practices when interacting with colleagues and customers in automotive service scenarios.

Content

Non-Credit Content

Service Tools and Tool Usage

1. Automotive lift operation and safe usage
 - a. inclusive workshop practices
 - b. equitable access to equipment
2. Floor jack operation
3. Jack stands
 - a. diverse ergonomic needs
4. Torque wrench
5. Use of automotive electrical system test equipment
6. Locating and Using Vehicle Information
 - a. Vehicle identification labels
 - b. Service manuals
 - c. Technical service bulletins
 - d. Product information
 - e. Vehicle service history
 - f. Discuss diverse customer backgrounds
 - g. Equitable service considerations
7. Engine Oil Change
 - a. Proper oil change interval
 - b. Proper oil type and usage
 - c. Drain plug and oil removal
 - d. Remove and replace oil filter
 - e. Drain plug gasket replacement and leak inspection
 - f. Oil installation and level check
 - g. Reset oil life indicator
8. Tire Inspection and Service
 - a. Inspect tire tread depth
 - b. Check for punctures
 - c. Assess tire age
 - d. Consider safety for all technicians
 - e. Remove tire
 - f. Repair puncture
 - g. Remount
 - h. Balance
 - i. Reinstall wheel
 - j. Tire inflation and safety procedures

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- k. Tire rotation for various drivetrain layouts
 - l. Tire pressure monitoring systems and perform reset procedures
 9. Other Under-Car Inspections
 - a. Suspension and steering linkages and hardware.
 - b. Wheel bearings
 - c. Inspect exhaust system components and installation hardware
 - d. Remove wheels and inspect brake system components
 - e. Inspect vehicle for fluid leakage
 10. Electrical System Testing
 - a. Battery safety and jump-start procedures
 - b. Battery cleaning and hold-down hardware inspection
 - c. Battery, starter, and generator testing using a battery conductance meter
 11. Cooling System and Accessory Drive Belts
 - a. Accessory drive belts, tensioners, pulleys, and replace as needed
 - b. Coolant levels, condition, leaks, and refill using correct fluids
 - c. Operation of mechanical and electric cooling fans, shrouds, and air dams
 - d. Inspect coolant hoses
 - e. Pressure test cooling system and radiator cap
 12. Vehicle Fluid Level Checks
 - a. Brake fluid inspection and adjustment
 - b. Assess fluid condition
 - c. Clutch fluid inspection and adjustment
 - d. Multiple fluid types
 - e. Inspect and adjust power steering fluid
 - f. Automatic transmission fluid inspection, adjustment, and type verification
 - g. Refill windshield washer reservoir
 13. Filter Inspection and Replacement
 - a. Fuel filter with safety precautions
 - b. Engine air filter
 - c. Inspect intake air temperature sensor and MIL operation
 - d. HVAC cabin air filter
 - e. Environmental and health considerations for all populations
 14. Ignition System Service
 - a. Replace spark plugs on conventional and coil-on-plug systems
 - b. Spark plug condition for insulator failure and flashover damage
 - c. Replace spark plug wires
 15. Scan Tool Testing
 - a. Verify operation of vehicle warning indicators
 - b. Retrieve digital trouble codes (DTCs)
 - c. Hard and soft codes
 - d. Additional service based on scan tool findings
 - e. Diverse problem-solving perspectives
 16. Final Inspections
 - a. Inspect and/or replace windshield wiper blades
 - b. Verify horn operation
 - c. Verify and repair interior and exterior vehicle lighting systems
 - d. Check HVAC system operation and duct temperature
 - e. Inspect vehicle for deliverable condition
 17. Teamwork
 - a. Inclusivity of Colleagues and customers
 - b. Professional communication with customers
 - c. Cultural Competency
 18. Employment Opportunities
 - a. Auto Repair Shops
 - b. Dealerships

- c. Specialty Automotive Services
- d. Fleet Maintenance
- e. Parts and Equipment Companies
- f. Self Employment
- g. Emerging Opportunities
 - i. Hybrid/EV

Methods of Instruction

Method

Lab Activities

Integration

Lab Activities can be used as an interactive, hands-on approach to reinforce knowledge covered in the course. Students will rotate through stations that simulate real-world automotive tasks, including oil changes, tire service, brake inspections, and diagnostic testing

DE Adaptations for MOI

Lab activities can be conducted synchronously or asynchronously using CMS tools or accessible video conferencing software. Students can access step-by-step instructions, watch accessible tutorial videos, or participate in a live demonstration during the lab session. After completing the activity, students can submit their work through the CMS to receive feedback. All lab activities will adhere to all accessibility standards.

Method

Lecture

Integration

Lecture can be used to provide foundational knowledge, introducing concepts and framing discussions around industry practices. An example of this would be the discussion of various procedures necessary to perform various service bay operations on gasoline powered vehicles.

DE Adaptations for MOI

Students can access recorded lectures through the CMS once they are posted by the instructor. They can use CMS tools to ask questions and seek clarification as needed. In a synchronous online class, lectures can be delivered via accessible video conferencing software, allowing students to ask questions in real time for immediate feedback and deeper understanding. All lectures will adhere to all accessibility standards.

Method

Observation and Demonstration

Integration

Observations and demonstration can be used for students to see the practical application of skills and techniques. This will help bridge the gap between theory and practice helping the students understand the concept more effectively. An example of this would be a step by step process of how to complete a final inspections of the windshield wipers, horns, lighting, HVAC systems, and overall vehicle condition while integrating teamwork, inclusive communication and respect for student contributions.

DE Adaptations for MOI

Students can access accessible demonstration videos through the CMS to learn specific skills. In a synchronous class, they can view live demonstrations using accessible video conferencing software.

Methods of Evaluation

Method

Class Work

Integration

Classwork can be used to evaluate both technical proficiency and professional skills by engaging students in realistic automotive scenarios that reflect diverse customer needs and cultural contexts. For example, students can diagnose issues, and recommend repairs while considering customer communication preferences, cultural expectations, and inclusivity in service interactions. Instructors can assess students on technical accuracy, reasoning, and their ability to apply cultural awareness and inclusive practices, reinforcing both competency in automotive service and respectful engagement with diverse clients.

DE Adaptations for MOE

Students can access classwork through the CMS once the assignment is posted by the instructor. Students can complete the coursework and submit it via CMS tools for the instructor to review and provide feedback within a timely manner. In a synchronous class, the instructor can monitor students' progress using screen sharing tools and offer real time feedback. All class participation will adhere to accessibility standards.

Method

Exams/Tests

Integration

Exams/Tests can be used to evaluate the students knowledge and understanding of key concepts, technical skills and ethical considerations. An example of this would be to inspect and complete a tire service as a team. The instructor can evaluate the students on their work practices to support each other as well as task equity, ensuring that inclusive participation is exhibited on top of the technical skill of the tire rotation. Instructors can provide feedback within a week.

DE Adaptations for MOE

Exams/Tests can be assessed and submitted through the CMS. Feedback can be provided either during the exams/tests or after completion, depending on how it is set up using CMS tools. Any individual feedback can be given by the instructor within a week of submission, either privately or through CMS tools. All accessibility standards will be met for exams/tests.

Method

Class Participation

Integration

Class participation can be used to evaluate students' engagement, teamwork, communication, and application of automotive knowledge. For example, a student can diagnose a vehicle electrical system, students can be assessed on their contributions to group problem-solving, asking relevant questions, sharing observations, and supporting peers in safely completing tasks. Instructors can use participation to gauge students' understanding of technical concepts, their ability to communicate effectively with diverse team members, and their adherence to professional and safety standards in the shop.

DE Adaptations for MOE

Class participation can be evaluated in an online environment through discussion boards, virtual labs, and collaborative assignments. These activities will be accessed through the CMS and submitted by the student through CMS tools. Instructor feedback can be provided through the CMS within a week of submission. All class participation activities will adhere to accessibility standards and guidelines.

Assignments**Assignment Type**

Writing

In-class and/or outside of class

In-class

Outside of class

Formative or Summative

Formative



Assignment

Vehicle Maintenance Analysis

Instructions:

Select one routine maintenance procedure (e.g., oil change, brake inspection, tire rotation, or battery service).

Write a 1–2 page report that includes:

- *A description of the procedure and its purpose in vehicle maintenance.
- *The tools and materials required.
- *Step-by-step instructions for performing the procedure safely.
- *Potential problems or safety issues that could arise and how to address them.
- *Considerations for serving diverse customers (e.g., explaining repairs clearly, respecting customer concerns, or cultural considerations in communication).
- *Use proper automotive terminology and clear, professional writing.

Evaluation Criteria:

Accuracy of technical content
Clarity and organization of the report
Use of proper terminology
Inclusion of safety and customer-focused considerations

How assignment will be adapted in online format

Students can access the assignment posted by the instructor through the CMS. The student can also post their completed assignment through the CMS using CMS tools. Instructor feedback will be provided within a week of submission.

Assignment Type

Reading

In-class and/or outside of class

In-class
Outside of class

Formative or Summative

Summative

Assignment

Vehicle Systems Diagnostic Case Study

Instructions:

Reading Material: Use the Haynes Repair Manual to review engine, electrical, and brake systems, including diagnostic procedures and maintenance standards.

Case Study:

After completing the reading, you will review a provided vehicle scenario, which includes symptoms, diagnostic codes, and customer concerns.

Written Response:

Submit a 2–3 page report addressing:

- *Identification of the vehicle systems involved and likely causes of the issue.
- *Step-by-step diagnostic approach, including tools and methods.
- *Recommended maintenance or repair actions.
- *Safety considerations and customer communication strategies, including respect for diverse customer backgrounds.
- *Reflection on how knowledge from the readings informed their diagnostic process.

Evaluation Criteria:

- *Accuracy in identifying problems and solutions
- *Application of reading material to practical scenarios
- *Use of proper automotive terminology
- *Inclusion of safety and customer-focused considerations



How assignment will be adapted in online format

Students can access the assignment posted by the instructor through the CMS. The student can also post their completed assignment through the CMS using CMS tools. Instructor feedback will be provided within a week of submission.

Assignment Type

Writing

In-class and/or outside of class

In-class

Outside of class

Formative or Summative

Formative

Assignment

Ethical Decision-Making in Automotive Service

This assignment will help you practice ethical reasoning, professional communication, and cultural awareness, preparing you to handle real-world situations in automotive service responsibly and inclusively.

A customer brings in a vehicle for a routine oil change. During the inspection, the technician notices worn brake pads that need replacement. The customer expresses concern about cost and asks the technician not to mention the brakes. The customer is from a cultural background where direct disagreement with authority is avoided.

Submit a 1–2 page response addressing the following:

- *Identification of the ethical dilemma and potential risks.
- *Steps the technician should take to resolve the situation ethically.
- *How to communicate the issue respectfully and clearly to a customer from a diverse background.
- *Reflection on professional responsibilities, safety, and customer trust.

Evaluation Criteria:

- *Identification and analysis of ethical issues
- *Application of professional and safety standards
- *Consideration of diversity and cultural communication
- *Clarity, organization, and professionalism in writing

How assignment will be adapted in online format

Students can access the assignment posted by the instructor through the CMS. The student can also post their completed assignment through the CMS using CMS tools. Instructor feedback will be provided within a week of submission.

Course Materials**Textbooks**

VanGelder, Kirl (2025) Fundamentals of Automotive Maintenance and Light Repair 3E 3rd Edition. Jones & Bartlett Learning. ISBN 978-1284278477

Johnson, Chris, Auto Fundamentals (2024) G&W Publisher ISBN:978-1-68584-410-3

Thompson, Rob, Automotive Maintenance & Light Repair | 3rd Edition (2024) Cengage ISMN:9780357766620

Grey, Michael E. and Linda E. (2018). Auto Upkeep Rolling Hills Publishing. ISBN: 978-1284278477

Grey, Michael E. and Linda E. (2018). Auto Upkeep Workbook Rolling Hills Publishing. ISBN: 978-1-62702-012-1

Class Size Information**Class Size**

30

Class Size Category

F - Individualized, skills#based instruction/field practice 30

Diversity and Inclusion

Course Design and Materials: Course will incorporate diverse perspectives, authors, and examples that reflect a variety of cultures, identities, and lived experiences. Instructional materials will be reviewed regularly to ensure representation, inclusivity, and alignment with equity-minded practices across disciplines.

Inclusive Learning Environment: Instructors will establish classroom norms and policies that promote respect, civil discourse, and belonging in both online and face-to-face classes. Clear expectations for communication and engagement will support a learning space where all students feel valued and heard.

Accessible Instruction: Course content will be delivered using accessible design. Materials will follow accessibility guidelines within the CMS, including captioned media, readable document formats, and multiple means of engagement to support diverse learning.

Equitable Teaching Practices: Instructors will use transparent and grading criteria, varied assessment methods, and timely feedback to promote fairness and student success. Opportunities for revision, reflection, and multiple demonstrations of learning may be incorporated when appropriate to the discipline.

Culturally Responsive Pedagogies: Instructional strategies will encourage critical thinking about diverse perspectives and systems of power relevant to the course content. Faculty will foster opportunities for students to connect course material to real-world contexts.

Ongoing Reflection and Improvement: Faculty will engage in continuous professional development related to IDEAA principles and reflect on course practices using metacognition to identify opportunities for increased equity, inclusion, and accessibility.

Explain how diversity and inclusion(e.g., gender, culture/race, sexuality, etc.) is infused into the course.

This course actively integrates diversity and inclusion throughout all modules to prepare students for a professional and culturally competent automotive workplace. Students practice safe operation of lifts, jacks, torque wrenches, and electrical testing equipment while collaborating in teams that accommodate varied physical abilities and learning styles. Instruction emphasizes equitable access to tools and hands-on activities, ensuring all students can participate fully. Students also learn to interpret vehicle information and communicate service recommendations with respect for diverse customer backgrounds and expectations. Collaborative problem-solving, peer mentoring, and inclusive teamwork are reinforced during inspections, maintenance procedures, and diagnostic tasks. Additionally, students develop cultural competency and professional communication skills by simulating customer interactions that reflect diverse perspectives and needs. Overall, the course combines technical training with inclusive practices, preparing students to excel in a diverse and evolving automotive industry.

Describe how assignments, instruction, evaluation, course content, and interactions are contextualized for diverse learners promoting an equitable course.

Assignments in this course are designed to accommodate varied learning styles and abilities, providing students with opportunities to demonstrate technical knowledge, problem-solving, and professional communication in multiple formats, including written reports, hands-on activities, and case studies. Instruction combines accessible lectures, demonstrations, videos, and lab activities to engage students with different learning preferences while modeling inclusive teamwork and safety practices. Evaluation methods, such as practical exams, quizzes, and participation assessments, consider both technical proficiency and the ability to collaborate respectfully with peers from diverse backgrounds. The course content emphasizes equitable access to tools, hands-on practice, and service tasks, ensuring all students can fully participate regardless of physical strength or prior experience. Students are encouraged to practice cultural competency by analyzing vehicle service histories and interacting with diverse customer scenarios, integrating ethical and professional considerations. Interactions within teams and with instructors foster peer mentoring, inclusive communication, and respect for multiple perspectives, helping students develop collaborative skills essential in the workplace. Diversity and inclusion are also embedded in safety practices, assignment design, and the use of adaptive tools, supporting students with varying abilities and promoting equitable outcomes.

Interactions**Explain how the course will incorporate student-to-student interaction.**

The course incorporates student-to-student interaction through collaborative lab activities that simulate real-world automotive service scenarios. For example, during the tire inspection and rotation module, students work in pairs to inspect tread depth, remove and remount tires, perform balancing, and assess tire pressure monitoring systems. While completing the task, students share responsibilities, discuss observations, and problem-solve together to ensure the procedure is completed safely and accurately. Instructors facilitate peer mentoring, encouraging students to explain steps to one another and provide constructive feedback. In an online environment, students can engage through accessible video conferencing or recorded demonstrations, where they observe

peers performing procedures, discuss their approaches in breakout groups, and provide written or verbal feedback on each other's techniques.

Explain how the course will incorporate instructor-to-student interaction.

Instructor-to-student interaction ensures students receive guidance, feedback, and support while learning both technical skills and professional practices. For example, when teaching equitable service considerations, the instructor demonstrates how to communicate respectfully with customers from diverse backgrounds while performing inspections, diagnostics, or maintenance tasks. In in-person labs, the instructor circulates among students to provide real-time feedback on both technical performance and customer interaction practices, modeling inclusive communication and professional etiquette. In the online environment, the instructor integrates demonstrations via accessible video conferencing software, discussion forums, and case-study exercises via the CMS, where students analyze customer scenarios and receive feedback on their proposed approaches. Virtual breakout sessions allow students to role-play interactions, discuss ethical and equitable service strategies, and ask questions, while the instructor monitors and guides the discussion. This interaction ensures that students not only develop automotive proficiency but also understand how to apply inclusive, culturally competent practices in real-world service situations.

Explain how the course will incorporate student-to-content interaction.

Instructor-to-content interaction guides students through course materials, demonstrations, and learning resources to ensure accurate understanding and application of technical procedures. For example, during the engine oil change module, the instructor interacts with service manuals, technical service bulletins, and oil change guides to demonstrate proper procedures for selecting oil types, replacing filters, and resetting oil life indicators. In in-person classes, the instructor references these materials while demonstrating the steps and explaining the rationale behind each action, ensuring students connect theory to hands-on practice. In an online environment, the instructor incorporates the same content through accessible recorded demonstrations, interactive tutorials, and annotated digital manuals, allowing students to access and review material at their own pace. Students can engage with the content by following along with accessible videos, reviewing reference materials, and submitting reflections or questions through discussion boards. The instructor monitors student understanding, provides clarification, and emphasizes key safety and procedural details, ensuring comprehension across diverse learning styles. This approach reinforces both technical mastery and professional knowledge, bridging the gap between content and practical application.

Explain how the course will incorporate student-to-self interaction (metacognitive).

The course incorporates student-to-self interaction by encouraging students to engage in self-reflection and assessment to monitor their learning, skills development, and career readiness. For example, students complete reflective exercises after completing tasks such as diagnostic procedures, tire rotations, or fluid inspections, evaluating their own technical performance, safety practices, and teamwork skills. In addition, students assess how their competencies align with potential automotive career pathways, identifying areas for improvement and setting personal learning goals. In the online environment, students engage in structured activities such as digital journals, self-assessment quizzes, and portfolio submissions to track progress and reflect on skill mastery. Discussion boards and guided prompts allow students to articulate challenges, successes, and strategies for professional growth, supporting metacognitive awareness. By consistently reflecting on their own performance, students develop critical thinking, problem-solving, and professional judgment skills essential for a career in the automotive industry.