

**ATL 280 Course Outline as of Fall 2025****CATALOG INFORMATION**

Dept and Nbr: ATL 280 Title: MHT PREV MAINT INSP  
 Full Title: Medium Heavy Truck Preventive Maintenance Inspection  
 Last Reviewed: 12/4/2023

Units	Course Hours per Week		Nbr of Weeks		Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.50	17.5	Lecture Scheduled	43.75
Minimum	3.00	Lab Scheduled	1.50	8	Lab Scheduled	26.25
		Contact DHR	0		Contact DHR	0
		Contact Total	4.00		Contact Total	70.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 87.50

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

**Catalog Description:**

Students will study preventive maintenance and inspection practices as related to diesel powered medium heavy-duty vehicles and equipment. Course prepares students to pass the Automotive Service Excellence (ASE) T8 Preventive Maintenance Inspection certification test. This is a practical course that applies the knowledge gained from courses ATL 220, 230, 240 and 290. For the ATL Medium Heavy Trucks (MHT) certificate programs, WEOC 99 can be substituted for this course.

**Prerequisites/Corequisites:**

Course Completion of ATL 105 and ATL 220 and ATL 230 and ATL 240 and ATL 290

**Recommended Preparation:**

Eligibility for ENGL C1000 or equivalent and MATH 25 or equivalent

**Limits on Enrollment:****Schedule of Classes Information:**

Description: Students will study preventive maintenance and inspection practices as related to diesel powered medium heavy-duty vehicles and equipment. Course prepares students to pass the Automotive Service Excellence (ASE) T8 Preventive Maintenance Inspection certification

test. This is a practical course that applies the knowledge gained from courses ATL 220, 230, 240 and 290. For the ATL Medium Heavy Trucks (MHT) certificate programs, WEOC 99 can be substituted for this course. (Grade Only)

Prerequisites/Corequisites: Course Completion of ATL 105 and ATL 220 and ATL 230 and ATL 240 and ATL 290

Recommended: Eligibility for ENGL C1000 or equivalent and MATH 25 or equivalent

Limits on Enrollment:

Transfer Credit:

Repeatability: Two Repeats if Grade was D, F, NC, or NP

### **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:

<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
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<b>CSU Transfer:</b>	Effective:	Inactive:
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<b>UC Transfer:</b>	Effective:	Inactive:
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**CID:**

**Certificate/Major Applicable:**

Both Certificate and Major Applicable

### **COURSE CONTENT**

**Student Learning Outcomes:**

At the conclusion of this course, the student should be able to:

1. Perform maintenance inspections on agricultural, construction, public transportation, and trucking equipment.
2. Evaluate equipment condition and determine repair options.

**Objectives:**

At the conclusion of this course, the student should be able to:

1. Describe maintenance and inspection procedures for diesel-powered equipment.
2. Evaluate symptoms of potential machine failure.
3. Perform and assess preventive maintenance inspections on the following:
  - A. tracks, tires, and wheels
  - B. engine and powertrain components
  - C. electrical/electronic components
  - D. chassis and undercarriage components.
4. Evaluate conditions and determine repair options.
5. Utilize digital media for service information.
6. Discuss and apply personal, shop, and environmental safety procedures.

**Topics and Scope:**

- I. Maintenance and Inspection Procedures
  - A. Scheduled maintenance

- B. Preventive maintenance
- II. Using Technical Manuals
  - A. Hard copy
  - B. Computerized
  - C. Service bulletins
- III. Regulations for Different Industries
  - A. Department of Transportation (DOT)
  - B. Federal Railroad Administration (FRA)
  - C. Society of Automotive Engineers (SAE)
- IV. Lubrication
  - A. Solid and liquid lubricants
  - B. Lubrication procedures
  - C. Rating symbols
- V. Failure Analysis
  - A. Metallic parts failures
  - B. Failures due to neglect/lack of maintenance
- VI. Tracks, Tires, and Wheels
  - A. Condition and wear
  - B. Rims, wheels, rollers
- VII. Engine Compartment
  - A. Fluid levels
  - B. Leak inspection
  - C. Belts and hoses
  - D. Component mounting
  - E. Wiring and clamps
  - F. Air intake system
  - G. Fuel systems
  - H. Cooling systems
- VIII. Electrical and Electronic systems
  - A. Inspect/test batteries
  - B. Battery cables and terminals
  - C. Starting system tests
  - D. Lighting system check
  - E. Gauges and instruments
  - F. Diagnostic display
  - G. Computer malfunction lamp diagnosis
- IX. Power Train
  - A. Transmission service
  - B. Rear axle service
  - C. Driveline inspection
  - D. Clutch adjustment
- X. Chassis/Undercarriage
  - A. Steering system
  - B. Suspension inspection
  - C. Brake adjustment and inspection
  - D. Anti-lock brake malfunction diagnosis
  - E. Springs and attachments
  - F. Component mounts
- XI. Hydraulic Systems
  - A. Fluid type and level indicators
  - B. Filters and maintenance
- XII. Safety

- A. Personal
- B. Shop
- C. Environmental/hazardous material handling

All topics are covered in both the lecture and lab parts of the course.

**Assignment:**

Lecture-Related Assignments:

- 1. Weekly reading (25-50 pages)
- 2. Tests (10-15)
- 3. Final exam

Lab-Related Assignments:

- 1. Perform preventive maintenance inspections and prepare written reports if assigned by instructor
- 2. Inspection and evaluation worksheets
- 3. ASE Education Foundation recommended task sheets
- 4. Daily work logs (work assigned, work completed)

**Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Written inspection reports; daily work logs	Writing 0 - 25%
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**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

ASE task sheets; inspection and evaluation worksheets	Problem solving 10 - 25%
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**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Perform preventive maintenance inspections	Skill Demonstrations 20 - 40%
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**Exams:** All forms of formal testing, other than skill performance exams.

Tests; final exam	Exams 30 - 50%
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**Other:** Includes any assessment tools that do not logically fit into the above categories.

None	Other Category 0 - 0%
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**Representative Textbooks and Materials:**

Fundamentals of Medium/Heavy Duty Commercial Vehicle Systems. 2nd ed. Duffy, Owen and Wright, Gus. Jones and Bartlett. 2020.

Fundamentals of Mobile Heavy Equipment. Wright, Gus and Duffy, Owen and Heard, Scott. Jones and Bartlett. 2019 (classic)

Instructor prepared materials