

Accessories

Course Outcome Summary

Course Information

Organization	Madison Area Technical College
Developers	Jim Miller
Development Date	3/21/2000
Revised Date	8/20/2003
Course Number	10-602-162
Instructional Level	Associate Degree
Potential Hours of Instruction	54
Total Credits	2

Description

Examines equipment supplied by both major manufacturers of automobiles and after-market suppliers. Classroom and lab activities help students understand basic electricity, electrical circuits and use of test equipment to troubleshoot circuit problems such as lighting, windshield wipers, power windows, instruments and cruise control.

Types of Instruction

Instruction Type	Contact Hours	Credits
Classroom Presentation	27	1
On Campus Laboratory	27	1

Textbooks

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Learner Supplies

Digital multimeter. **Manufacturer:** ---.
loose leaf notebook. **Manufacturer:** ---.

Exit Learning Outcomes

Core Abilities

- A. Communication
- B. Critical thinking
- C. Science and Technology
- D. Social interaction

Standards

ASE certification for Automobile Training Programs

Competencies

- A. Practice safety and good work habits**
You will demonstrate your competence:
A.1. in the lab
Your performance will be successful when:
A.1. you demonstrate safety
A.2. you protect tools, equipment and manuals
A.3. you protect models and customer's property
A.4. you maintain clean and organized work areas
A.5. you demonstrate conservative use of shop supplies
- B. Use a digital multimeter**
Competence will be demonstrated:
B.1. on a written test
B.2. on a meter and circuit performance test
Criteria - Performance will be satisfactory when:
B.1. you measure voltage in electrical circuits
B.2. you measure voltage drop in electrical circuits
B.3. you measure resistance in electrical circuits
B.4. you determine condition of switches, connectors, relays and wires
- C. Perform solder repair of electrical wiring harness and components**
Competence will be demonstrated:
C.1. on a written test
C.2. on a soldering performance test
Criteria - Performance will be satisfactory when:
C.1. you select correct tools and supplies to repair wires and connectors
C.2. you repair wires, components and connectors to industry standards
- D. Perform electrical diagnosis using a digital multimeter to locate grounds, opens, shorts and resistance problems**
Competence will be demonstrated:
D.1. on a written test
D.2. on a meter and circuits performance test
Criteria - Performance will be satisfactory when:
D.1. you perform electrical diagnosis of heater
D.2. you perform electrical diagnosis of starter
D.3. you perform electrical diagnosis of ignition
D.4. you perform electrical diagnosis of light circuits
- E. Analyze automobile and trailer lighting systems**
Competence will be demonstrated:
E.1. by drawing a schematic of the exterior lights of an automobile and trailer
E.2. in an oral presentation
E.3. on a written test
Criteria - Performance will be satisfactory when:
E.1. you analyze the operation of the lighting systems
E.2. you diagnose the lighting system problems of the automobile and trailer
- F. Analyze gauge and warning light systems of the automobile**

Competence will be demonstrated:

F.1. on a written test

Criteria - Performance will be satisfactory when:

F.1. you analyze the operation of the gauge and warning light systems

F.2. you diagnose the gauge and warning light system problems of the automobile

G. Analyze motor circuits of an automobile

Competence will be demonstrated:

G.1. on a written test

Criteria - Performance will be satisfactory when:

G.1. you analyze the operation of the windshield wipers motor circuits

G.2. you analyze the operation of the power windows motor circuits

G.3. you analyze the operation of the power seat motor circuits

G.4. you diagnose motor circuit problems

G.5. you diagnose other motor circuits

H. Analyze cruise control systems

Competence will be demonstrated:

H.1. on a written test

H.2. on a circuit performance test

Criteria - Performance will be satisfactory when:

H.1. you analyze the operation of the cruise control circuits

H.2. you diagnose cruise control circuit problems

I. Analyze supplemental restraint systems (airbags)

Competence will be demonstrated:

I.1. on a written test

I.2. on a circuit performance test

Criteria - Performance will be satisfactory when:

I.1. you analyze the operation of supplemental restraint systems

I.2. you diagnose supplemental restraint system problems

J. Analyze the manual and power lock systems of the automobile

Competence will be demonstrated:

J.1. on a written test

Criteria - Performance will be satisfactory when:

J.1. you analyze the operation of manual and power lock systems

J.2. you diagnose manual and power lock systems problems