

## ***Automotive Services Technology (AST)***

### **AST 170 Engine Repair**

4 Hours

Prerequisites: None

8 hours weekly (2-6) (Meets 4 hours daily for 30 days or 16 hours weekly for 7.5 weeks)

A study of the diagnosis and repair of cylinder heads and valve trains, short blocks, and lubrication and cooling system components. General engine diagnosis and engine completion and start-up procedures are also covered.

### **AST 171A Ignition Systems**

4 Hours

Prerequisites: None

8 hours weekly (2-6) (Meets 4 hours daily for 30 days or 16 hours weekly for 7.5 weeks)

This course is a study of ignition systems, beginning with breaker point systems and covering the evolution through computerized ignition systems.

### **AST 171B Fuel and Exhaust Systems**

4 Hours

Prerequisites: AST 171A

8 hours weekly (2-6) (Meets 4 hours daily for 30 days or 16 hours weekly for 7.5 weeks)

A study of fuel and exhaust systems, including carburetion, fuel injection, and computer-controlled fuel systems.

### **AST 172 Introduction to Automotive Services**

2 Hours

Prerequisites: None

4 hours weekly (1-3) (Meets 4 hours daily for 15 days or 8 hours weekly for 7.5 weeks)

A study of shop safety, shop operation, and career opportunities in automotive technology. Also covered are basic servicing techniques as applied to engine repair and automatic transmissions and transaxles.

### **AST 173 Braking Systems**

4 Hours

Prerequisites: None

8 hours weekly (2-6) (Meets 4 hours daily for 30 days or 16 hours weekly for 7.5 weeks)

Provides instruction in hydraulic principles, brake lines and hoses, disc and drum brake components, and anti-lock braking systems.

### **AST 180A Basic Electrical Systems**

2 Hours

Prerequisites: None

4 hours weekly (1-3) (Meets 4 hours daily for 15 days or 8 hours weekly for 7.5 weeks)

This course is a study of the principles of electricity and general electrical system diagnosis.

### **AST 180B Starting and Charging Systems**

2 Hours

Prerequisites: AST 180A or consent of instructor  
4 hours weekly (1-3) (Meets 4 hours daily for 15 days or 8 hours weekly for 7.5 weeks)

A study of the diagnosis and service of batteries, starting systems, and charging systems.

### **AST 180C Electrical Accessories**

2 Hours

Prerequisites: AST 180A or consent of instructor  
4 hours weekly (1-3) (Meets 4 hours daily for 15 days or 8 hours weekly for 7.5 weeks)

A study of lighting systems, gauges, warning circuits, supplemental restraint systems, and other accessories.

### **AST 200 Alternative Fuels**

2 Hours

Prerequisites: None

2 hours weekly (2-0) (Meets 2 hours daily for 15 days or 4 hours weekly for 7.5 weeks)

This course is a continually evolving study of alternative ways to propel an automobile. For example, compressed natural gas, propane, biodiesel, hydrogen fuels, electrical vehicles, etc., will be studied.

### **AST 270 Manual Drive Trains and Axles**

4 Hours

Prerequisites: None

8 hours weekly (2-6) (Meets 4 hours daily for 30 days or 16 hours weekly for 7.5 weeks)

A study of the diagnosis and repair of clutches, manual transmissions, manual transaxles, and differentials. Drive shafts, CV joints, front-wheel

drive, and four-wheel drive components are also covered.

**AST 271 Automatic Transmission/Transaxles**  
4 Hours

Prerequisites: None  
8 hours weekly (2-6) (Meets 4 hours daily for 30 days or 16 hours weekly for 7.5 weeks)

A study of automatic transmission and transaxle diagnosis and repair. Electronic controlled transmissions are also covered.

**AST 273 Automotive Computer Electronics**  
2 Hours

Prerequisites: AST 190A or consent of instructor  
4 hours weekly (1-3) (Meets 4 hours daily for 15 days or 8 hours weekly for 7.5 weeks)

This course is a review of Ohm's law as it applies to electronic circuits. Solid state components and digital electronics are also covered.

**AST 276 Emission Control Systems**  
2 Hours

Prerequisites: None  
4 hours weekly (1-3) (Meets 4 hours daily for 15 days or 8 hours weekly for 7.5 weeks)

This course is a study of emission control systems. Individual emission control devices as well as OBD II systems are covered.

**AST 279 ASE Testing**  
2 Hours

Prerequisites: None  
2 hours weekly (2-0) (Meets 2 hours daily for 15 days or 4 hours weekly for 7.5 weeks)

This course is designed to help prepare the student to pass ASE tests. These tests are not from ASE tests, but are similar in context and style. The National Institute for Automotive Service Excellence (ASE) has been organized to promote and encourage high standards of automotive service and repair. ASE offers tests in eight specific areas of automotive repair, which are covered in this course.

**AST 280 Air Conditioning**  
4 Hours

Prerequisites: None  
8 hours weekly (2-6) (Meets 4 hours daily for 30 days or 16 hours weekly for 7.5 weeks)

This course is a study of automotive air conditioning and climate control systems.

**AST 281 Suspension and Steering**  
4 Hours

Prerequisites: None  
8 hours weekly (2-6) (Meets 4 hours daily for 30 days or 16 hours weekly for 7.5 weeks)

A study of suspension and steering system diagnosis, repair, and adjustment.