

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

### **AST 100 Automotive Orientation and Safety**

2 Hours

Prerequisites: None

2 hours weekly (2-0)

This course is designed to introduce the automotive or auto collision student to the many career opportunities. The course allows the student an opportunity to ask questions about jobs in the industry. The course covers the safety needed to know for automotive and auto collision service work. This course will also cover some of the history of the automotive industry.

### **AST 101 Automotive Maintenance and Light Repair**

3 Hours

Concurrent Enrollment: AST 100

4 hours weekly (2-2)

A study of the basic servicing techniques required for automotive maintenance and light repair. With emphasis on automotive systems, hand tools and shop equipment, diagnostic tools and shop equipment, and preventive maintenance.

### **AST 170 Engine Repair**

3 Hours

Prerequisites: AST 100 & AST 101

4 hours weekly (2-2)

This course is an introduction for the student into the Internal Combustion Engine (I.C.E.). This course will concentrate on engine construction, diagnosis, diagnosis, disassembly, inspection, and reassembly.

### **AST 171 Engine Performance I**

3 Hours

Prerequisites: AST 100, 101, 170, 180, 190 or instructor permission

4 hours weekly (2-2)

This class introduces students into what systems technician's service on a regular basis. It is an introduction into the service of the engine performance systems.

### **AST 180 Electrical I**

3 Hours

Prerequisites: AST 100, AST 101 or instructor permission

4 hours weekly (2-2)

This course is a study of the principles of electricity and general electrical system diagnosis as it pertains to the 12-volt system used in automotive systems. This course will cover batteries, series, parallel circuits, wiring diagrams, and other electrical principles.

### **AST 183 Braking, Steering, and Suspension I**

3 Hours

Prerequisites: AST 100, 101, 180 or instructor permission

4 hours weekly (2-2)

This class will introduce the student into the brake, steering and suspension systems used in the automotive industry. This class will cover brake system fundamentals and brake safety, principles of brake operation, base brake components, along with tires, wheels, wheel bearings, suspension systems, and basic steering components.

### **AST 190 Electrical II**

3 Hours

Prerequisites: AST 100, 101, 180 or instructor permission

4 hours weekly (2-2)

A study of the diagnosis and service of starting systems, charging systems, lighting circuits, accessories, and passive restraint and vehicle safety systems.

### **AST 191 Automotive Service Lab I**

4 Hours

Prerequisites: AST 100, 101, 170, 171, 180, 183, 190 or instructor permission

8 hours weekly (0-8)

This course will give the student a chance to participate in a live working automotive shop. Students will be working as service writers, service technicians, quick lube specialist, parts/tool room tech, and acting service manager. Students will participate in all jobs associated with a service shop as an entry level technician, throughout this 4 day a week 16-week class students will be better prepared to work in a shop environment after graduation.

### **AST 201 Hybrid/EV History and Safety**

2 Hours

Prerequisites: AST 100, 101, 180, 190 or instructor permission or 2 years of work experience as a certified technician.

2 hours weekly (2-0)

This course is an online only class that is required for the spring EV/Hybrid Class. This course will be the study of electric and hybrid vehicle history and safety. In this course the student will learn about the long history of electric vehicles, along with the safety requirements needed to service these vehicles

safety. This is needed course before taking the EV/Hybrid class in the spring semester.

### **AST 202 Hybrid/EV Diagnostic and Service**

3 Hours

Prerequisites: AST 100, 101, 171, 180, 183, 190, 201 or instructor permission or 2 years of work experience as a certified technician.

4 hours weekly (2-2)

This course is an online only class that is required for the spring EV/Hybrid Class. This course will be the study of electric and hybrid vehicle history and safety. In this course the student will learn about the long history of electric vehicles, along with the safety requirements needed to service these vehicles safety. This is needed course before taking the EV/Hybrid class in the spring semester.

### **AST 261 Engine Performance II**

3 Hours

Prerequisites: AST 100, 101, 170, 171 180, 190 or instructor permission

4 hours weekly (2-2)

This class introduces students into what systems technician's service on a regular basis. It is an introduction into the service of the engine performance systems. With an emphasis on the fuel system, electronic fuel injection, ignition systems, and the emission control systems.

### **AST 282 Automotive HVAC**

3 Hours

Prerequisites: AST 100, 101, 180, 190 or instructor permission

4 hours weekly (2-2)

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

### **AST 283 Brakes, Steering and Suspension II**

3 Hours

Prerequisites: AST 100, 101, 180, 183, 190 or instructor permission

4 hours weekly (2-2)

This class will expand on the previous brakes and steering systems from the AST 183 class. With specifics in the power brake, electronic brake, four-wheel alignments, and other steering and suspension systems.

### **AST 290 Drivetrain Basics**

3 Hours

Prerequisites: AST 100, 101, 180, 190 or instructor permission

4 hours weekly (2-2)

A study of the diagnosis and repair of clutches, manual transmissions, manual transaxles, differentials, and introduction into automatic transmissions. Drive shafts, CV joints, front-wheel drive, and four-wheel drive components are also covered.

### **AST 291 Automotive Service Lab II**

4 Hours

Prerequisites: AST 100, 101, 170, 171, 180, 183, 190, 191, 261, 282, 283 or instructor permission

8 hours weekly (0-8)

This course will give the student a chance to participate in a live working automotive shop. Students will be working as service writers, service technicians, quick lube specialist, parts/tool room tech, and acting service manager. Students will participate in all jobs associated with a service shop, throughout this 4 day a week 16-week class students will be better prepared to work in a shop environment after graduation.

### **AST 292 Automotive Service Lab III**

4 Hours

Prerequisites: AST 100, 101, 170, 171, 180, 183, 190, 191, 201, 202, 261, 282, 283, 290, 291 or instructor permission

8 hours weekly (0-8)

This course will give the student a chance to participate in a live working automotive shop. Students will be working as service writers, service technicians, quick lube specialist, parts/tool room tech, and acting service manager. Students will participate in all jobs associated with a service shop as an entry level technician, throughout this 4 day a week 16-week class students will be better prepared to work in a shop environment after graduation.