

AUTOMOTIVE MECHANICS (AUTM)

AUTM 111 Suspension and Alignment (5 Credit Hours)

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 6

Prerequisite: AUTM 120 and AUTM 122 and AUTM 124 and AUTM 138 with minimum grade of C.

Corequisite: AUTM 113, AUTM 115

Studies the theory of suspension designs and how steering geometry affects directional controls and tire wear. The principles of wheel alignment including types of adjustments are covered. Hands-on lab work includes inspection, diagnosing, and repair procedures on suspension, steering, and alignment systems. As we as perform full alignment checks and adjustment procedures. This class will help prepare the student for the ASE test A4, Suspension and Steering.

AUTM 113 Brakes (4 Credit Hours)

Type of credit: Occupational/Technical

Lecture hours: 1

Lab hours: 6

Prerequisite: AUTM 120 and AUTM 122 and AUTM 124 and AUTM 138 with minimum grade of C.

Corequisite: AUTM 111, AUTM 115

Studies the theory of drum, disc, power-assisted and anti-lock brake systems. Includes disassembly and repair procedures necessary for service of hydraulic and electric braking systems. This class will help prepare the student for the ASE test A5, Brakes.

AUTM 115 Stand Transmsn/Final Drives (3 Credit Hours)

Type of credit: Occupational/Technical

Lecture hours: 1

Lab hours: 5

Prerequisite: AUTM 120 and AUTM 122 and AUTM 124 and AUTM 138 with minimum grade of C.

Corequisite: AUTM 111, AUTM 113

Discuss the theory and power flow of standard transmissions, clutches and final drives. Hands-on lab work consists of shifting 4 and 5 speed transmissions, disassemble, inspection and reassemble of differential assemblies. This class will help prepare the student for the ASE test A3, Manual Drive Train & Axles.

AUTM 120 Fundamentals of Engines (2 Credit Hours)

Type of credit: Occupational/Technical

Lecture hours: 1

Lab hours: 3

Prerequisite: RDG 120 or LTRE 097 or ESL 097 with minimum grade of C or concurrent enrollment or Academic placement measures.

Corequisite: AUTM 122, AUTM 124, AUTM 138

Studies the basic operating principles of an engine. Operation of automotive machine shop equipment is demonstrated. This class will help prepare the student for the ASE test A1, Engine Repair.

AUTM 122 Engine Components/Construction (3 Credit Hours)

Type of credit: Occupational/Technical

Lecture hours: 1

Lab hours: 4

Prerequisite: RDG 120 or LTRE 097 or ESL 097 with minimum grade of C or concurrent enrollment or Academic placement measures.

Corequisite: AUTM 120, AUTM 124, AUTM 138

Studies the construction and the components of an engine including the cylinder block, crankshaft, piston assemblies, cylinder heads, camshafts, and valve train parts. This class will help prepare the student for the ASE test A1, Engine Repair.

AUTM 124 Fundamentals of Electricity (4 Credit Hours)

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 4

Prerequisite: RDG 120 or LTRE 097 or ESL 097 with minimum grade of C or concurrent enrollment or Academic placement measures.

Corequisite: AUTM 120, AUTM 122, AUTM 138

Studies electrical theory, magnetism, terms, symbols, measurements, as well as automotive circuits including starting and charging systems. This class will help prepare the student for the ASE test A6, Electrical/Electronic Systems.

AUTM 138 Automotive Servicing (2 Credit Hours)

Type of credit: Occupational/Technical

Lecture hours: 0

Lab hours: 5

Corequisite: AUTM 120, AUTM 122, AUTM 124

Studies service procedures, customer relations, and diagnosis for all areas of auto repair. Includes diagnosis and light repair for general maintenance in automotive. This class will help prepare the student for ASE test G1, General Maintenance.

AUTM 231 Fundamentals of Electronics (3 Credit Hours)

Type of credit: Occupational/Technical

Lecture hours: 1

Lab hours: 5

Prerequisite: AUTM 111 and AUTM 113 and AUTM 115 with minimum grade of C.

Corequisite: AUTM 233, AUTM 235, AUTM 242

Studies electronic theory and components including diodes, transistors, and solid-state circuits. This class will help the student prepare for ASE test A6, Electrical/Electronics Systems.

AUTM 233 Fuel Systems (3 Credit Hours)

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 2

Prerequisite: AUTM 111 and AUTM 113 and AUTM 115 with minimum grade of C.

Corequisite: AUTM 231, AUTM 235, AUTM 242

Studies fuel system components and circuits, gasoline rating and additives, testing, diagnosing, and repairing of the fuel system. This class will help prepare the student for the ASE test A8, Engine Performance.

AUTM 235 Electronic Engine Controls (3 Credit Hours)

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 2

Prerequisite: AUTM 111 and AUTM 113 and AUTM 115 with minimum grade of C.

Corequisite: AUTM 231, AUTM 233, AUTM 242

Studies the computerized system and components. This class will help the student prepare for the ASE test A8, Engine Performance.

AUTM 237 Engine Performance (3 Credit Hours)

Type of credit: Occupational/Technical

Lecture hours: 1

Lab hours: 4

Prerequisite: AUTM 231 and AUTM 233 and AUTM 235 and AUTM 242 with minimum grade of C.

Corequisite: AUTM 238, AUTM 240, AUTM 248

Studies the diagnosis of the engine control systems, ignition systems, fuel and induction system and the emission control system. This class will help prepare the student for the ASE test A8, Engine Performance.

AUTM 238 Adv Automotive Data Analysis (3 Credit Hours)

Type of credit: Occupational/Technical

Lecture hours: 1

Lab hours: 4

Repeatable: 2 times

Prerequisite: AUTM 231 and AUTM 233 and AUTM 235 and AUTM 242 with minimum grade of C.

Corequisite: AUTM 237, AUTM 240, AUTM 248

Introduces students to advanced automotive data retrieval using chassis dynamometer, scan tools, 4-5 gas analyzers, and lab scopes.

AUTM 240 Automatic Transmissions (4 Credit Hours)

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 4

Prerequisite: AUTM 231 and AUTM 233 and AUTM 235 and AUTM 242 with minimum grade of C.

Corequisite: AUTM 237, AUTM 238, AUTM 248

Studies automatic transmissions of light duty vehicles. Includes a study of the design, operation, servicing, maintenance, repair, and testing of automatic transmissions. This class will help prepare the student for the ASE test A2, Automatic Transmissions/Trans axle.

AUTM 242 Automotive Body Electronics (3 Credit Hours)

Type of credit: Occupational/Technical

Lecture hours: 1

Lab hours: 4

Prerequisite: AUTM 111 and AUTM 113 and AUTM 115 with minimum grade of C.

Corequisite: AUTM 231, AUTM 233, AUTM 235

An in-depth study of all automotive body electrical components and systems such as remote and lighted entry, cruise control, power windows and seats, power door locks, power antenna, security systems, rear window defogger, and electronic traction controls. This class will help prepare the student for the ASE test A6, Electrical/Electronic Systems.

AUTM 248 Auto Heating/Air Conditioning (3 Credit Hours)

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 3

Prerequisite: AUTM 231 and AUTM 233 and AUTM 235 and AUTM 242 with minimum grade of C.

Corequisite: AUTM 237, AUTM 238, AUTM 240

Studies air conditioning fundamentals of standard and automatic temperature control systems. Diagnose and repair of air conditioning units and the preparation for certification in the handling and recycling of CFC-12, HFC-R134a, HFO-1234yf refrigerant. This class will help prepare the student for the ASE test A7, Heating and Air Conditioning.