AUTOMOTIVE SERVICE TECHNOLOGY (AM)

AM-100 Automotive Fundamentals

4 credits, Fall/Winter/Spring

An introductory automotive service class intended to provide fundamental knowledge and basic experience about automobiles. The course covers automotive systems, preventive maintenance and performing basic repairs. Also covered in the course is SP2 safety and pollution prevention training, communication skills, tool identification and general automotive maintenance and repair.

AM-101 Intro to Automotive Service Technology

2 credits, Fall/Winter/Spring

This course will prepare students for success in the Automotive Service Technology Program. Shop orientation and automotive industry safety training will be provided. Students can earn industry-recognized certificates. Students will be exposed to industry-recognized online service information. Students will also be introduced to tasks that align with the Auto Service Excellence Education Foundation (ASEEF) Master Automotive Service Technician (MAST) program accreditation. Prerequisites: MTH-020 or placement in MTH-050, and placement in WRD-090

Corequisites: AM-129, AM-130, AM-131, AM-133, AM-135, or AM-142

AM-106 Fix Your Own Car

2 credits, Not Offered Every Term

A do-it-yourself course for students who want to work on their own cars. Includes: oil change, lubrication, fluid checks, brakes, cooling system, electrical system, safety, and other quick services. May be repeated for up to 12 credits.

AM-116 Remote Control Vehicle Fundamentals

4 credits, Fall/Winter/Spring

This course is intended to provide an exploration into mechanical and electrical systems found on 1/10 scale electrically propelled trucks. Students will have classroom instruction to cover operation of suspension systems, drive train systems, gear reductions, battery construction, battery maintenance and charging, electric motor operation, maintenance and repair. Students will disassemble, categorize and organize all parts and re-assemble a remote-controlled vehicle throughout the term. Students will test and operate their remote vehicle on a controlled course with successful completion of class assignments.

AM-118 Small Engine Repair

4 credits, Fall/Winter/Spring

This course is designed to provide an overview of basic small engine maintenance, operation and repair. It covers safety, small engine theory, electrical systems, and troubleshooting. Classroom instruction covering theory of operation, 2 cycle and 4 cycle designs and applications, combined with hands-on live projects provides the student the opportunity to learn basic principles of small engine operation, including outdoor equipment, motorcycles, and A.T.V.'s.

AM-129 Electrical Systems I

5 credits, Fall

This course is designed to provide students with the entry-level skills necessary to repair automobile electrical systems. Students will learn about general electrical systems diagnosis; servicing and repair of batteries, starting systems, and charging systems.

Prerequisites: MTH-020 or placement in MTH-050, and placement in WRD-090

Recommended Prerequisites: AM-101 with a C or better, or Student Petition

AM-130 Brake Systems

5 credits, Fall

In this theory and lab course students will learn about the construction and operation of basic hydraulics, brake fluids, friction materials, seals, disc and drum brakes, hydraulic and vacuum brake boosters systems. Students will also learn to service and repair automotive brake systems. Prerequisites: MTH-020 or placement in MTH-050, and placement in WRD-090

Recommended Prerequisites: AM-101 with a C or better, or Student Petition

AM-131 Suspension Systems

5 credits, Winter

In this theory and lab course, students will learn the design, construction, service, and repair of front and rear suspension systems, wheels and tires, steering systems, and alignments. Students will service and repair these systems in the hands-on lab.

Prerequisites: MTH-020 or placement in MTH-050, and placement in WRD-090

Recommended Prerequisites: AM-101 with a C or better, or Student Petition

AM-133 Engine Systems

5 credits, Winter

This course is designed to provide students with the entry-level skills necessary to repair automobile engines. Includes general engine diagnosis; cylinder head and valve train diagnosis and repair; engine block assembly diagnosis and repair; and lubrication and cooling systems diagnosis and repair.

Prerequisites: MTH-020 or placement in MTH-050, and placement in WRD-090

Recommended Prerequisites: AM-101 with a C or better, or Student Petition

AM-135 Power Transmission Systems

5 credits, Spring

In this course students will learn the construction, operation, service and repair of clutches, manual transmission, U-joints, drive lines, final drives, overdrive, and four wheel drives.

Prerequisites: MTH-020 or placement in MTH-050, and placement in WRD-090

Recommended Prerequisites: AM-101 with a C or better, or Student Petition

AM-142 Engine Performance I

5 credits, Spring

This course is designed to provide students with the entry-level skills necessary to repair automobile fuel delivery and emission systems. Includes general engine diagnosis; fuel, air induction, and exhaust systems diagnosis and repair; emission control systems diagnosis and repair. Introduction to the diagnostic process, scan tools, and oscilloscopes.

Prerequisites: MTH-020 or placement in MTH-050, and placement in WRD-090

Recommended Prerequisites: AM-101 with a C or better, or Student Petition

AM-201 Automotive Internship

3 credits, Fall

Students will be completing a portfolio project to present to companies in the automotive industry. Students will learn best practices for interview preparedness and resume development. There will be a scheduled interview day with partners in industry to help place students in the workforce for internship. Students will prepare for Auto Service Excellence (ASE) certification tests.

Prerequisites: AM-101

AM-223 Alternative Fuels Transportation Technology

5 credits, Spring

Provides students with knowledge of theory and physical description of hybrid, Electric, Fuel cell vehicles. The student will have the opportunity to acquire practical experience in the area of diagnosing and repairing alternative fuel transportation vehicles. Prerequisites: AM-129

AM-224 Comfort Systems

5 credits, Fall

In this course, students will learn design, construction, testing, maintenance, and repair of automotive heating and air conditioning systems. Prepares a student to take the Section 609 Environmental Protection Agency certification test. Prerequisites: AM-129

AM-225 Safety Systems

5 credits, Spring

In this course students will be introduced to existing vehicle on-board safety systems and Advanced Driver Assist Systems (ADAS) on today's vehicles. Safety systems such as Anti-lock brakes, Traction control, Airbag systems, Stability control, and Advanced Driver Assist Systems will be explained, demonstrated, and tested. Prerequisites: AM-129

AM-228 Service Shop Management

4 credits, Spring

Course designed to familiarize students with the responsibilities of the parts manager, service manager and service writer and the day to day responsibilities of operating a business.

Prerequisites: MTH-020 with a C or better, or placement in MTH-050 or higher

AM-229 Electrical Systems II

5 credits, Fall

In this course students will learn fundamentals of electronics, diagnosis, and repair of general electrical including, lighting systems, instrument cluster and driver information systems, and body electrical systems. Prerequisites: AM-129

AM-242 Engine Performance II 5 credits. Winter

This course is the second of two engine performance courses. In this course the students will receive training in advanced lab scope diagnostics, advanced level scan tool usage, power train reprogramming and the opportunity to do real world diagnostics. On board diagnostics 2 (OBD2) readiness monitors and how they work will be discussed. Training and practical application of all monitored systems of the OBD2 system will be performed.

Prerequisites: AM-142

AM-245 Automatic Transmission Systems

5 credits, Winter

This course covers the theory and physical description of the automatic transmission. The student will have the opportunity to acquire practical experience and learn the proper procedures for overhaul, service, and diagnosis of an automatic transmission. Prerequisites: AM-129

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AM-280 Auto Mechanics/CWE

1-6 credits, Fall/Winter/Spring/Summer

Cooperative work experience. Work-related learning experience in an auto repair shop or auto dealership. Required: Student Petition. Corequisites: CWE-281