

# AUTOMOTIVE TECH (602)

## 602-100. ASEP Automotive Fundamentals. (2 Credits)

Build a foundation for subsequent automotive courses, and develop the basic concepts needed for the program.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=100>)

## 602-104. Brake Systems. (3 Credits)

This automotive course focuses on developing the skills needed to diagnose, service and repair vehicle braking systems with an introduction to ABS. (ABS diagnosis, service and repair will be addressed in the Advanced Chassis course.)

Prerequisites: 602-107 (may be taken concurrently) with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=104>)

## 602-105. Introduction to Hybrid Safety. (1 Credit)

Introduces students to hybrid vehicle operation fundamentals. Hybrid and high voltage safety, disabling the HV system, and introduction of test equipment will be covered.

Prerequisites: 602-127 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=105>)

## 602-106. Auto Service Consulting & Est. (1 Credit)

Introduces students to the responsibilities and procedures associated with an automotive service consultant position. Parts and labor estimating will also be covered. Content follows the guidelines established by ASE for Automotive Service Consultant (C1) certification.

Prerequisites: 602-107 with a minimum grade of C-

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=106>)

## 602-107. Auto Service Fundamentals. (2 Credits)

This automotive course focuses on developing skills in professionalism, safety and the use of basic hand and power tools in accordance with industry standards. Students are introduced to the automotive service industry and learn to use both comprehensive and manufacturer's service information to perform basic under-hood and under-car services.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=107>)

## 602-108. Intro to Light Duty Diesel Eng. (1 Credit)

Introduces students to diesel engine operation fundamentals. Air intake, exhaust, fuel systems and emission standards will be covered. Students will perform light maintenance and repairs, and troubleshoot driveability and fuel economy concerns.

Prerequisites: (602-107 with a minimum grade of C and 602-206 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=108>)

## 602-109. Auto Transmission/Transaxle. (4 Credits)

This automotive course focuses on developing the skills needed to diagnose, service and repair automatic transmission/transaxles including overhaul procedures.

Prerequisites: 602-127 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=109>)

## 602-110. ASEP Electrical Systems & Acc. (4 Credits)

This course provides the student with the fundamental theories of electricity and electronics necessary for competent electrical fault isolation, system diagnosis, and repair. This course will also provide the student with a basic understanding of charging and starting systems, and the required skills to diagnose and repair them.

Prerequisites: 602-100 (may be taken concurrently) with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=110>)

## 602-112. ASEP Fuel Management Advanced. (3 Credits)

This course builds upon the knowledge and skills gained in 602-143 Fuel Management 1. The student will perform system diagnosis, use sophisticated diagnostic equipment, and follow computerized engine control diagnostic procedures to solve engine performance and emission problems.

Prerequisites: 602-143 (may be taken concurrently) with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=112>)

## 602-114. ASEP Automatic Trans. (4 Credits)

This course will provide the student with the skills and knowledge to repair automatic transmissions and transaxles used on today's vehicles. Shop activities will include disassembly, inspection, and reassembly of transmissions used in both front- and rear-wheel drive automobiles. Diagnosis and repair procedures will be covered in detail.

Prerequisites: 602-180 (may be taken concurrently) with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=114>)

## 602-117. Engine Repair-Basic. (2 Credits)

Develop skills to diagnose, service and repair internal combustion engines. Focus on in-vehicle diagnosis and repairs, including engine cooling and lubrication systems.

Prerequisites: (602-125 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=117>)

## 602-118. Engine Repair-Advanced. (3 Credits)

Develop skills to service and repair internal combustion engines. Focus on out-of-vehicle engine repair including overhaul procedures.

Prerequisites: 602-125 with a minimum grade of C and (602-206 (may be taken concurrently) with a minimum grade of C or 602-205 (may be taken concurrently) with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=118>)

## 602-120. ASEP Engine Concepts. (4 Credits)

Explore the operating principles and construction of the automotive internal combustion engine, focusing on cylinder head repair, valve timing, and proper assembly techniques.

Prerequisites: (602-143 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=120>)

**602-122. Engine Performance Advanced. (3 Credits)**

This automotive course focuses on developing the skills needed to diagnose, service and repair fuel and emission control systems. Emphasis is placed on diagnostic procedures and the problem-solving techniques associated with automotive engine performance and drivability.

Prerequisites: 602-197 (may be taken concurrently) with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=122>)

**602-123. Engine Repair 2. (3 Credits)**

This automotive course focuses on developing the skills needed to diagnose, service and repair internal combustion engines. Emphasis is placed on out-of-vehicle engine repair including overhaul procedures.

Prerequisites: 602-103 with a minimum grade of C-

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=123>)

**602-124. Steering & Suspension Systems. (3 Credits)**

This automotive course focuses on developing the skills needed to diagnose, service and repair steering and suspension systems including wheel alignment procedures.

Prerequisites: 602-107 (may be taken concurrently) with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=124>)

**602-125. Electrical&Electronic Systems1. (2 Credits)**

This automotive course focuses on developing the skills needed to diagnose, service and repair electrical and electronic systems. Learners apply Ohm's Law to basic electrical circuit diagnosis.

Prerequisites: (602-107 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=125>)

**602-127. Electrical&Electronic Systems2. (3 Credits)**

This automotive course focuses on developing the skills needed to diagnose, service and repair electrical and electronic systems including batteries, starting/charging/lighting systems and computer control systems.

Prerequisites: 602-125 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=127>)

**602-128. Electrical&Electronic Systems3. (3 Credits)**

Develop skills to diagnose, service and repair electrical and electronic systems, including driver information, horn, wiper/washer, power accessories, cruise control, airbag, anti-theft and radio systems, and onboard computer networking systems.

Prerequisites: 602-127 (may be taken concurrently) with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=128>)

**602-130. ASEP Align/Suspension/Steering. (3 Credits)**

This course will introduce the student to the suspension and steering systems found on late-model vehicles. It will provide the student with the skills required to inspect, service and replace suspension and steering system components. The student will demonstrate wheel alignment procedures and related steering and suspension systems service.

Prerequisites: 602-100 (may be taken concurrently) with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=130>)

**602-137. Intro-Hybrid & Elec Vehicles. (3 Credits)**

Gain an introduction to electric and hybrid vehicle operation fundamentals. Explore high voltage safety, including emergency rescue, test equipment and how to disable high-voltage systems.

Prerequisites: (602-127 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=137>)

**602-143. ASEP Fuel Management 1. (4 Credits)**

This course introduces the student to engine operating principles, the systems that support engine operation and control emissions. The student will demonstrate engine maintenance and diagnostic procedures for systems that are related to engine mechanical, engine performance and emission control. Troubleshooting and resolution of driveability complaints will also be emphasized.

Prerequisites: (602-100 (may be taken concurrently) with a minimum grade of C and 602-110 (may be taken concurrently) with a minimum grade of C and 602-180 (may be taken concurrently) with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=143>)

**602-144. ASEP Fuel Management 2. (2 Credits)**

This course builds upon the knowledge and skills gained in Fuel Management I. Emission systems and controls will be introduced. The student will perform system diagnosis, use sophisticated diagnostic equipment, and follow computerized engine control diagnostic procedures to diagnose and repair engine performance and emission failure problems.

Prerequisites: (602-143 with a minimum grade of C-)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=144>)

**602-145. ASEP Fuel Management 3. (2 Credits)**

This course builds upon the skills and knowledge gained in Fuel Management I and Fuel Management II with emphasis on On-Board Diagnostics, generation two (OBD II). Included will be diagnosis of engine control system faults with a focus on sensor deterioration, catalytic converter efficiency, misfire detection, EGR system performance, and EVAP system performance.

Prerequisites: (602-144 (may be taken concurrently) with a minimum grade of C-)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=145>)

**602-148. ASEP Auto Computer Application. (3 Credits)**

Develop an understanding of computer concepts to achieve manufacturer certification.

Prerequisites: 602-110 with a minimum grade of C and 602-180 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=148>)

**602-149. Manual Drive Train and Axles. (4 Credits)**

This automotive course focuses on developing the skills needed to diagnose, service and repair clutches, manual transmission/transaxle, differentials, four-wheel drive/all-wheel drive, and drive axles.

Prerequisites: 602-127 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=149>)

**602-150. ASEP Auto Temperature Control. (2 Credits)**

Study the theory, operation, maintenance and repair of late-model heating and air conditioning systems. Topics include diagnosis and repair of climate control components and computer-controlled systems, recovery/recycling of refrigerants, safety and environmental regulations, and usage of appropriate tools, equipment, and service information.

Prerequisites: (602-110 (may be taken concurrently) with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=150>)

**602-155. Drive Train & Axle Systems. (3 Credits)**

Develop skills to diagnose, service and repair manual transmission/transaxle, differentials, and four-wheel/all-wheel drive axles.

Prerequisites: (602-127 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=155>)

**602-158. Automatic Transmis/Drive Train. (3 Credits)**

Develop skills to diagnose, service and repair automatic transmission/transaxles.

Prerequisites: (602-127 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=158>)

**602-162. ASEP Manual Transmissions. (3 Credits)**

This course will provide the student with the skills and knowledge to repair manual transmissions and driveline components. Shop activities will include disassembly, inspection, and reassembly of transmissions, differentials, transfer cases, universal joints and drive shafts, used in both front and rear wheel drive automobiles.

Prerequisites: 602-100 (may be taken concurrently) with a minimum grade of C and 602-180 with a minimum grade of C and 602-110 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=162>)

**602-163. ASEP Automatic Transmissions. (3 Credits)**

This course will provide the student with the skills and knowledge to repair automatic transmissions and transaxles used on today's vehicles. Shop activities will include disassembly, inspection, and reassembly of transmissions used in both front- and rear-wheel drive automobiles. Diagnosis and repair procedures will be covered in detail.

Prerequisites: 602-100 (may be taken concurrently) with a minimum grade of C- and 602-110 with a minimum grade of C- and 602-180 with a minimum grade of C-

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=163>)

**602-170. ASEP Automotive Brakes. (3 Credits)**

This course is a study of theory and practice of servicing drum and disc brake systems on General Motors vehicles. Included will be power brake systems, diagonal split systems, and four-wheel disc units. This course also introduces the purpose, operation, components, use of diagnostic tools, and service of antilock brake systems.

Prerequisites: (602-100 (may be taken concurrently) with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=170>)

**602-180. ASEP Electronic Accessories. (2 Credits)**

This course will introduce the student to the electronic accessories found on today's automobiles. It is also intended to provide the student with an understanding of the GM Supplemental Restraint (Air Bag) Systems, function of the Body Control Module (BCM), and how these systems interface with other components and systems.

Prerequisites: 602-110 (may be taken concurrently) with a minimum grade of C and 602-100 (may be taken concurrently) with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=180>)

**602-186. Automotive Climate Control. (2 Credits)**

This automotive course focuses on developing the skills needed to diagnose, service and repair climate control systems including heating, cooling and air distribution. Upon successful completion of the Mobile Refrigerant Handling Unit (ATCP-136), a state certificate will be issued.

Prerequisites: 602-127 (may be taken concurrently) with a minimum grade of C-

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=186>)

**602-187. ASEP Co-Op Dealership Exp 1. (1 Credit)**

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=187>)

**602-190. Co-Op Dealership Experience I. (1 Credit)**

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience.

Prerequisites: Approval of Co-op Ed Office

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=190>)

**602-191. ASEP Co-Op Dealership Exp 2. (1 Credit)**

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience.

Prerequisites: (602-190 with a minimum grade of C or 602-187 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=191>)

**602-192. ASEP Co-Op Dealer Exp 3. (1 Credit)**

Take part in a period of involved employment in the automotive field, guided by an organized student learning plan.

Prerequisites: (602-191 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=192>)

**602-193. ASEP Co-Op Dealership Exp 4. (1 Credit)**

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience.

Prerequisites: 602-192 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=193>)

**602-194. ASEP Co-Op Dealership Exp 5. (1 Credit)**

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience.

Prerequisites: 602-193 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=194>)

**602-195. Advanced Chassis Systems. (2 Credits)**

This automotive course focuses on developing the skills needed to diagnose, service and repair antilock brake, vehicle stability enhancement, and electronic steering and suspension systems.

Prerequisites: 602-104 with a minimum grade of C and 602-124 with a minimum grade of C and 602-127 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=195>)

**602-196. Climate Control Systems. (3 Credits)**

This automotive course focuses on developing the skills needed to diagnose, service and repair climate control systems including heating, cooling and air distribution. Upon successful completion of the Mobile Refrigerant Handling Unit (ATCP-136), a state certificate will be issued.

Prerequisites: (602-127 (may be taken concurrently) with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=196>)

**602-197. Engine Performance 1. (3 Credits)**

Develop skills to diagnose, service and repair fuel systems, powertrain control and ignition systems. Focus on diagnostic procedures and the problem-solving techniques associated with automotive engine performance and drivability.

Prerequisites: (602-127 (may be taken concurrently) with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=197>)

**602-198. Engine Performance 2. (4 Credits)**

This automotive course focuses on developing the skills needed to diagnose, service and repair fuel and emission control systems. Emphasis is placed on diagnostic procedures and the problem-solving techniques associated with automotive engine performance and drivability.

Prerequisites: 602-197 with a minimum grade of C-

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=198>)

**602-204. Engine Repair I. (3 Credits)**

This automotive course focuses on developing the skills needed to service and repair internal combustion engines. Emphasis is placed on out-of-vehicle engine repair including overhaul procedures.

Prerequisites: (602-125 with a minimum grade of C and 602-205 (may be taken concurrently) with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=204>)

**602-205. Engine Repair II. (2 Credits)**

This automotive course focuses on developing the skills needed to diagnose, service, and repair internal combustion engines. Emphasis is placed on in-vehicle diagnosis and repairs including valve timing, engine cooling, and lubrication systems.

Prerequisites: (602-125 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=205>)

**602-206. Engine Repair-Basic. (2 Credits)**

Develop skills to diagnose, service and repair internal combustion engines. Focus on in-vehicle diagnosis and repairs, including engine cooling and lubrication systems.

Prerequisites: (602-125 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=206>)

**602-207. Engine Repair-Advanced. (3 Credits)**

Develop skills to service and repair internal combustion engines. Focus on out-of-vehicle engine repair including overhaul procedures.

Prerequisites: (602-125 with a minimum grade of C and 602-206 (may be taken concurrently) with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=207>)

**602-210. Intro-Hybrid & Elec Vehicles. (3 Credits)**

Gain an introduction to electric and hybrid vehicle operation fundamentals. Explore high voltage safety, including emergency rescue, test equipment and how to disable high-voltage systems.

Prerequisites: (602-127 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=210>)

**602-304. Brakes. (2 Credits)**

This automotive course focuses on developing the skills needed to diagnose, service and repair antilock brake, vehicle stability enhancement, and electronic steering and suspension systems.

Prerequisites: 405-121 (may be taken concurrently) with a minimum grade of C-

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=304>)

**602-324. Suspension and Alignment. (2 Credits)**

This automotive course focuses on developing the skills needed to diagnose, service and repair steering and suspension systems including wheel alignment procedures.

Prerequisites: 405-121 with a minimum grade of C-

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=324>)

**602-396. Automotive HVAC. (2 Credits)**

This automotive course focuses on developing the skills needed to diagnose, service and repair climate control systems including heating, cooling and air distribution. Upon successful completion of the Mobile Refrigerant Handling Unit (ATCP-136), a state certificate will be issued.

Prerequisites: 405-135 with a minimum grade of C-

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=602&num=396>)