Academic Plan: Associate of Applied Science - Automotive Service Technology

# Catalog Year: 2019/2020

# Credits: 89

The Associate of Applied Science Degree in Automotive Service Technology and related certificate programs are ASE

Student Foundation certified and taught by ASE certified Instructors.

The two-year Automotive A.A.S. and certificate programs train students for employment in the automotive service industry as professional technicians and prepare students for the ASE (Automotive Service Excellence) certification examinations.

This program includes ASE certification or manufacturer-specific training. Each class in the program requires 5-45 additional hours of hands-on and/or web based training (under supervision of the instructor) in addition to scheduled class hours.

Students wishing to pursue the two-year degree or the certificate programs must be signed into courses by the program director at the beginning of each semester to ensure that they are on track academically to graduate in the prescribed two-year period. Classes for the corporate tracks will be filled with dealer sponsored students first. General program students may be allowed to fill any remaining seats. All students, regardless of their chosen track, should be aware of automotive repair industry expectations, specifically that technicians must drive customers’ vehicles as part of the repair process; thus, the technician and the student must have a clean motor vehicle record and valid driver’s license. The hiring process at reputable repair shops and dealerships will include a drug screen and a thorough background investigation.

# Required Courses

## General Education Courses

* COM 115 - Public Speaking\* OR COM 125 - Interpersonal Communication (3 Credits)
* ELT 146 - Digital Devices in Computers (3 Credits)
* ENG 121 - English Composition GT-CO1 OR ENG 131 - Technical Writing 3GT-CO1\* (3 Credits)
* MAT 108 - Technical Mathematics or Higher\* (4 Credits)
* PHY 105 - Conceptual Physics with Lab: GT-SC1\* (4 Credits)

## Major Courses

* ASE 101 - Auto Shop Orientation (2 Credits)
* ASE 103 - Auto Maintenance I (2 Credits)
* ASE 110 - Automotive Brake Service I (3 Credits)
* ASE 111 - Automotive Brake Service II (2 Credits)
* ASE 120 - Basic Automotive Electricity (2 Credits)
* ASE 122 - Automotive Electrical Safety Systems (1 Credits)
* ASE 123 - Starting and Charging System (2 Credits)
* ASE 130 - General Engine Diagnosis (2 Credits)
* ASE 134 - Automotive Fuel and Emissions Systems I (2 Credits)
* ASE 140 - Suspension and Steering I (2 Credits)
* ASE 141 - Suspension and Steering II (2 Credits)
* ASE 150 - Manual Drive Train and Axle Maintenance (2 Credits)
* ASE 151 - Automotive Manual Transmission/Transaxles & Clutches (2 Credits)
* ASE 152 - Manual Transmission, Transaxles and Clutches II (3 Credits)
* ASE 153 - Automotive Drive Axle Overhaul (1 Credits)
* ASE 154 - Manual Transmission/Transaxle Diagnosis and Repair (1 Credits)
* ASE 160 - Automotive Engine Repair (1 Credits)
* ASE 161 - Engine Repair & Rebuild (4 Credits)
* ASE 162 - Automotive Engine Repair (2 Credits)
* ASE 170 - Laboratory Experience I (2 Credits)
* ASE 171 - Laboratory Experience II (4 Credits)
* ASE 172 - Laboratory Experience III (2 Credits)
* ASE 210 - Automotive Power and ABS Brake Systems (2 Credits)
* ASE 221 - Automotive and Diesel Body Electrical (3 Credits)
* ASE 231 - Automotive Computers and Ignition Systems (3 Credits)
* ASE 233 - Auto Fuel Injection and Emissions Systems II (3 Credits)
* ASE 235 - Driveability & Diagnosis (2 Credits)
* ASE 240 - Suspension and Steering III (3 Credits)
* ASE 250 - Automatic Transmission/Transaxle Service (1 Credits)
* ASE 251 - Automotive Transmission and Transaxle Repair (3 Credits)
* ASE 252 - Advanced Automatic Transmissions/Transaxles (2 Credits)
* ASE 264 - Introduction Automotive Heating and Air Conditioning (1 Credits)
* ASE 265 - Heating and Air Conditioning Systems (3 Credits)

# Pre-Requisites, Co-Requisites, and Recommendations (grade C or better required)

Where requirements are listed as course categories (e.g. Electives, Arts/Humanities) rather than as specific courses, please note that depending upon course choice, pre-requisites may be required.

* ASE 111 - Automotive Brake Service II
  + Pre-Requisite: ASE 110 - Brakes I
* ASE 123 - Starting and Charging System
  + Pre-Requisite: ASE 120 - Basic Automotive Electricity
* ASE 134 - Automotive Fuel and Emissions Systems I
  + Pre-Requisite: ASE 231 - Automotive Computers and Ignition Systems
* ASE 141 - Suspension and Steering II
  + Pre-Requisite: ASE 140 - Suspension and Steering I
* ASE 170 - Laboratory Experience I
  + Pre-Requisite: ASE 120 - Basic Automotive Electricity
* ASE 171 - Laboratory Experience II
  + Pre-Requisite: ASE 120 - Basic Automotive Electricity
* ASE 172 - Laboratory Experience III
  + Pre-Requisite: ASE 120 - Basic Automotive Electricity
* ASE 210 - Automotive Power and ABS Brake Systems
  + Pre-Requisite: ASE 110 - Brakes I
  + Pre-Requisite: ASE 111 - Automotive Brake Service II
* ASE 221 - Automotive and Diesel Body Electrical
  + Pre-Requisite: ASE 120 - Basic Automotive Electricity
* ASE 231 - Automotive Computers and Ignition Systems
  + Pre-Requisite: ASE 120 - Basic Automotive Electricity
  + Pre-Requisite: ASE 170 - Laboratory Experience I
* ASE 233 - Auto Fuel Injection and Emissions Systems II
  + Pre-Requisite: ASE 120 - Basic Automotive Electricity
  + Pre-Requisite: ASE 134 - Automotive Fuel and Emissions Systems I
  + Pre-Requisite: ASE 231 - Automotive Computers and Ignition Systems
* ASE 235 - Driveability & Diagnosis
  + Pre-Requisite: ASE 120 - Basic Automotive Electricity
* ASE 240 - Suspension and Steering III
  + Pre-Requisite: ASE 140 - Suspension and Steering I
  + Pre-Requisite: ASE 141 - Suspension and Steering II
* ASE 251 - Automotive Transmission and Transaxle Repair
  + Pre-Requisite: ASE 250 - Automatic Transmission/Transaxle Service
* ASE 252 - Advanced Automatic Transmissions/Transaxles
  + Pre-Requisite: ASE 251 - Automotive Transmission and Transaxle Repair
* ASE 265 - Heating and Air Conditioning Systems
  + Pre-Requisite: ASE 264 - Introduction Automotive Heating and Air Conditioning
* ELT 146 - Digital Devices in Computers
  + Pre-Requisite: ASE 221 - Automotive and Diesel Body Electrical
  + Pre-Requisite: ELT 106 - Fundamentals of DC/AC OR ASE 120 - Basic Automotive Electricity OR ASE 123 - Starting and Charging System OR ASE 170 - Laboratory Experience I OR ASE 171 - Laboratory Experience II, OR ASE 172 - Laboratory Experience III

# Program Outcomes

* Acquire baseline expertise in the following Automotive Service areas: Engine Repair, Automatic Transmission and Transaxle, Manual Drive Train and Axles, Suspension and Steering Systems, Brakes, Electrical/Electronic Systems, Heating, Cooling and Air Conditioning, and Engine Performance.
* Demonstrate reliable, responsible dependability in the workplace.

# Notes

* \*This course requires college level readiness as measured by Accuplacer, ACT, or SAT scores; approved high school course work that is less than five years old; or successful completion of appropriate college-readiness course.
* AAA 101 – College 101: Student Experience is required for all new college students seeking degrees or transfer.
* Course availability is subject to change.
* Recommended courses are listed above for certain electives; consult with the Academic Advising Office (advising@arapahoe.edu or 303.797.5664) or the Automotive Department for additional elective recommendations.
* Refer to 19/20 catalog for specific requirements and important information about this degree.

# Graduation Requirements

To graduate, students must apply for graduation [here](http://www.arapahoe.edu/departments-and-programs/graduation) by the deadline and meet all degree requirements.

# RECOMMENDED COURSE SEQUENCE FULL-TIME TRACK

## Year 1: Summer

* ASE 101 - Auto Shop Orientation (2 Credits)
* ASE 103 - Auto Maintenance I (2 Credits)
* ASE 122 - Automotive Electrical Safety Systems (1 Credits)
* ASE 250 - Automatic Transmission/Transaxle Service (1 Credits)
* ASE 264 - Introduction Automotive Heating and Air Conditioning (1 Credits)

## Year 1: Fall

* ASE 120 - Basic Automotive Electricity (2 Credits)
* ASE 123 - Starting and Charging System (2 Credits)
* ASE 170 - Laboratory Experience I (2 Credits)
* ASE 171 - Laboratory Experience II (4 Credits)
* ASE 172 - Laboratory Experience III (2 Credits)
* ASE 221 - Automotive and Diesel Body Electrical (3 Credits)
* MAT 108 - Technical Mathematics or Higher (4 Credits)

## Year 1: Spring

* ASE 110 - Automotive Brake Service I (3 Credits)
* ASE 111 - Automotive Brake Service II (2 Credits)
* ASE 140 - Suspension and Steering I (2 Credits)
* ASE 150 - Manual Drive Train and Axle Maintenance (2 Credits)
* ASE 153 - Automotive Drive Axle Overhaul (1 Credits)
* ASE 160 - Automotive Engine Repair (1 Credits)
* ASE 161 - Engine Repair & Rebuild (4 Credits)
* ASE 162 - Automotive Engine Repair (2 Credits)
* PHY 105 - Conceptual Physics with Lab: GT-SC1 (4 Credits)

## Year 2: Summer

* COM 115 - Public Speaking OR COM 125 - Interpersonal Communication (3 Credits)
  + ~Recommended Communication Course(s)~
    - COM 125 - Interpersonal Communication

## Year 2: Fall

* ASE 130 - General Engine Diagnosis (2 Credits)
* ASE 134 - Automotive Fuel and Emissions Systems I (2 Credits)
* ASE 231 - Automotive Computers and Ignition System (3 Credits)
* ASE 233 - Auto Fuel Injection and Emissions Systems II (3 Credits)
* ASE 235 - Driveability & Diagnosis (2 Credits)
* ASE 265 - Heating and Air Conditioning Systems (3 Credits)
* ELT 146 - Digital Devices in Computers (3 Credits)

## Year 2: Spring

* ASE 141 - Suspension and Steering II (2 Credits)
* ASE 151 - Automotive Manual Transmission/Transaxles & Clutches (2 Credits)
* ASE 152 - Manual Transmission, Transaxles and Clutches II (3 Credits)
* ASE 154 - Manual Transmission/Transaxle Diagnosis and Repair (1 Credits)
* ASE 210 - Automotive Power and ABS Brake Systems (2 Credits)
* ASE 240 - Suspension and Steering III (3 Credits)
* ASE 251 - Automotive Transmission and Transaxle Repair (3 Credits)
* ASE 252 - Advanced Automatic Transmissions/Transaxles (2 Credits)
* ENG 121 - English Composition GT-CO1 OR ENG 131 - Technical Writing GT-CO1 (3 Credits)
  + Recommended Course(s)~
    - ENG 131 - Technical Writing I: GT-CO1\*

# RECOMMENDED COURSE SEQUENCE PART-TIME TRACK

## Year 1: Summer

* ASE 101 - Auto Shop Orientation (2 Credits)
* ASE 103 - Auto Maintenance I (2 Credits)
* ASE 122 - Automotive Electrical Safety Systems (1 Credits)
* ASE 250 - Automatic Transmission/Transaxle Service (1 Credits)
* ASE 264 - Introduction Automotive Heating and Air Conditioning (1 Credits)

## Year 1: Fall

* ASE 110 - Automotive Brake Service I (3 Credits)
* ASE 111 - Automotive Brake Service II (2 Credits)
* ASE 140 - Suspension and Steering I (2 Credits)
* ASE 150 - Manual Drive Train and Axle Maintenance (2 Credits)
* ASE 153 - Automotive Drive Axle Overhaul (1 Credits)
* ASE 160 - Automotive Engine Repair (1 Credits)
* ASE 161 - Engine Repair & Rebuild (4 Credits)
* ASE 162 - Automotive Engine Repair (2 Credits)
* PHY 105 - Conceptual Physics with Lab: GT-SC1 (4 Credits)

## Year 1: Spring

* ASE 120 - Basic Automotive Electricity (2 Credits)
* ASE 123 - Starting and Charging System (2 Credits)
* ASE 170 - Laboratory Experience I (2 Credits)
* ASE 171 - Laboratory Experience II (4 Credits)
* ASE 172 - Laboratory Experience III (2 Credits)
* ASE 221 - Automotive and Diesel Body Electrical (3 Credits)
* MAT 108 - Technical Mathematics or Higher (4 Credits)

## Year 2: Summer

* COM 115 - Public Speaking OR COM 125 - Interpersonal Communication (3 Credits)
  + Recommended Communication Course(s)~
    - COM 125 - Interpersonal Communication

## Year 2: Fall

* ASE 141 - Suspension and Steering II (2 Credits)
* ASE 151 - Automotive Manual Transmission/Transaxles & Clutches (2 Credits)
* ASE 152 - Manual Transmission, Transaxles and Clutches II (3 Credits)
* ASE 154 - Manual Transmission/Transaxle Diagnosis and Repair (1 Credits)
* ASE 210 - Automotive Power and ABS Brake Systems (2 Credits)
* ASE 240 - Suspension and Steering III (3 Credits)
* ASE 251 - Automotive Transmission and Transaxle Repair
* ASE 252 - Advanced Automatic Transmissions/Transaxles (2 Credits)

## Year 2: Spring

* ASE 130 - General Engine Diagnosis (2 Credits)
* ASE 134 - Automotive Fuel and Emissions Systems I (2 Credits)
* ASE 231 - Automotive Computers and Ignition System (3 Credits)
* ASE 233 - Auto Fuel Injection and Emissions Systems II (3 Credits)
* ASE 235 - Driveability & Diagnosis (2 Credits)
* ASE 265 - Heating and Air Conditioning Systems (3 Credits)
* ELT 146 - Digital Devices in Computers (3 Credits)
* ENG 121 - English Composition GT-CO1 OR ENG 131 - Technical Writing GT-CO1 (3 Credits)
  + ~Recommended Course(s)~
    - ENG 131 - Technical Writing I: GT-CO1\*