

Industrial Technology Courses

Course Title	9th Grade	10th Grade	11th Grade	12th Grade
Automotive Systems I	•	•	•	•
Automotive Technology I - ASE 101 - Shop Orientation		•	•	•
Automotive Technology I - ASE 122 - Auto Electrical Safety Systems		•	•	•
Automotive Technology II - ASE 250 - Auto Transmission/Transaxle		•	•	•
Automotive Technology I - ASE 103 - Auto Maintenance		•	•	•
Automotive Technology II - ASE 264 - Auto Heating & Air Conditioning		•	•	•
Automotive Technology III			•	•
Automotive Technology IV			•	•
Automotive Technology V				•
Automotive Technology VI				•
Basic Repair for Home & Apartment	•	•	•	•
Fundamentals of Carpentry	•	•	•	•
Woodworking I	•	•	•	•
Woodworking II	•	•	•	•
Woodworking III		•	•	•
Introducion to Metals	•	•	•	•

Ponderosa High School is the only NATEF accredited automotive program to offer college credit through a partnership with Arapahoe Community College in Douglas County.

Automotive Systems I 45790	Credit: 1	\$30/Semester	Grade: 9-12
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Prerequisites: None
Graduation Req: Practical Arts

This course introduces students to the basics of vehicle ownership in both classroom and shop environments. Upon completion of the course, students will have an understanding of normal vehicle care and maintenance. Topics of study include basic tool usage, roadside safety, basic vehicle maintenance, and responsible vehicle ownership.

Automotive Technology I ASE 101 – Shop Orientation (CE) - Fall 69203	Credit: 1	\$80/Semester Cost of Workbook	Grade: 10-12
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Prerequisites: Students must attend a program orientation meeting offered the spring prior to enrollment. Co-enrolled with ASE 122 - Auto Electrical Safety Systems and ASE 250- Auto Transmission/Transaxle.
Graduation Req: Practical Arts

Provides students with safety instruction in the shop and on the Automobile. Emphasis is placed on the proper use and care of test equipment, precision measuring and machining equipment, gaskets, adhesives, tubing, wiring, jacks, presses, and cleaning equipment and techniques. Students enrolled in this course must be concurrently enrolled in ACC.

Automotive Technology I ASE 103 – Auto Maintenance (CE) - Spring 69204	Credit: 1	\$80/Semester Cost of Workbook	Grade: 10-12
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Prerequisites: Grade of 60% or higher ASE 101 - Shop Orientation, ASE 122 Auto Electrical Safety Systems and ASE 250 - Auto Transmission/Transaxle. Co-enrollment with ASE 264 Intro to Auto HVAC.
Graduation Req: Practical Arts

This course addresses three primary areas of concern for the average car owner. The first is the basics of how various systems on the automobile work. The second is the maintenance required for the vehicle. The third is the financial concerns of owning the vehicle. Students enrolled in this course must be concurrently enrolled in ACC.

Automotive Technology I ASE 122 – Auto Electrical Safety Systems (CE) - Fall 69205	Credit: 1	\$80/Semester Cost of Workbook	Grade: 10-12
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Prerequisites: Students must attend a program orientation meeting offered the spring prior to enrollment. Co-enrolled with ASE 101 – Shop Orientation and ASE 250-Auto Transmission/Transaxle.
Graduation Req: Practical Arts

Teaches the student to identify operation of vehicle lighting systems, Supplemental Inflatable Restraints (SIR), windshield wiper, driver warning systems and vehicle accessories. Students enrolled in this course must be concurrently enrolled in ACC.

Automotive Technology II **Credit:** **\$80/Semester** **Grade:**
ASE 250 – Auto Transmission **1** **Cost of Workbook** **10-12**
& Transaxle (CE) - Fall
69206

Prerequisites: Co-enrolled with ASE 101 – Shop Orientation and ASE 250-Auto Maintenance.

Graduation Req: Practical Arts

Focuses on practical methods of maintaining, servicing and performing minor adjustments on an automatic transmission and transaxle. Students enrolled in this course must be concurrently enrolled in ACC.

Automotive Technology II **Credit:** **\$80/Semester** **Grade:**
ASE 264 – Intro to Auto **1** **Cost of Workbook** **10-12**
HVAC (CE) - Spring
69207

Prerequisites: Grade of 60% or higher in ASE 101 - Shop Orientation, ASE 122 - Auto Electrical Safety Systems & ASE 250 - Auto Transmission/Transaxle. Co-enrollment with ASE 103 - Auto Maintenance.

Graduation Req: Practical Arts

Covers basic operation of the Heating and Air Conditioning components. Students enrolled in this course must be concurrently enrolled in ACC.

Automotive **Credit:** **\$80/Semester** **Grade:**
Technology III **1** **Cost of Workbook** **11-12**
45780

Prerequisites: Automotive Technology II with a grade of 60% or higher

Graduation Req: Practical Arts

This course prepares students for taking the Automotive Service Excellence (ASE) student certification exams. Students study advanced theory, operation, & repair of the engine, brake, steering, and suspension systems. This fall semester course is double blocked and must be taken with spring semester course Automotive Technology IV.

Automotive **Credit:** **\$80/Semester** **Grade:**
Technology IV **1** **Cost of Workbook** **11-12**
45785

Prerequisites: Automotive Technology III with a grade of 60% or higher

Graduation Req: Practical Arts

Students taking Automotive Technology IV will take the Automotive Service Excellence (ASE) student certification exams. Students study advanced theory, operation, & repair of the engine, ignition, fuel delivery, and emissions control systems. This spring semester course is double blocked and must be taken with fall semester course Automotive Technology III.

Automotive Technology V 45786	Credit: 1	\$80/Semester Cost of Workbook	Grade: 12
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Prerequisites: Automotive Technology IV with a grade of 60% or higher
Graduation Req: Practical Arts

Automotive Technology V provides students with training in shop management practices including inventory controls, OSHA and EPA compliance, and the soft skills necessary to strong interpersonal skills. Please note this is a semester long, double block schedule course meeting 5 times per week.

Automotive Technology VI 45787	Credit: 1	\$80/Semester Cost of Workbook	Grade: 12
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Prerequisites: Automotive Technology V with a grade of 60% or higher
Graduation Req: Practical Arts

Automotive Technology VI is a final class to prepare students for the auto repair industry and trade school. Auto Technology I through V will be reviewed to reinforce basic knowledge and skills, then put to use by performing major repairs on vehicles.

Basic Repair for Home & Apartment 45415	Credit: 0.5	\$45/Semester	Grade: 9-12
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Prerequisites: None
Graduation Req: Practical Arts

The Basic Repairs For Home or Apartment class will provide students with the opportunity to learn essential skills to perform maintenance and repair tasks in a personal dwelling. In addition to general safety, curriculum will include the following non-code topics: pouring and finishing a small concrete pad, framing and finishing walls, basic wiring and electrical topics, mounting a toilet, changing a bath/kitchen fixture, changing door hardware, painting, and installing roofing.

Fundamentals of Carpentry 45405	Credit: 0.5		Grade: 9-12
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Prerequisites: Basic Repair for Home & Apartment
Graduation Req: Practical Arts

Students learn the fundamentals of safe tool use, construction materials, and scale drawing. These skills, along with carpentry techniques, are applied to the building of structures. The Primary focus of this class is learning the trade of commercial construction. Students will learn and build framing, roofing, concrete finishing and many other common skills used in the construction industry. Additionally, students will learn bidding projects and project management skills. This is the premier class of the industrial tech woodworking/carpentry program.

Woodworking I 45400	Credit: 0.5	\$40/Semester	Grade: 9-12
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Prerequisites: Basic Repair for Home & Apartment
Graduation Req: Practical Arts

This course serves as an introduction to woodworking methods, properties of wood and wood products, and a strong foundation for safe and effective use of woodworking tools and machinery. The areas covered in this course include wood finishing, lamination, wood identification, and safety. Projects include, but are not limited to, jewelry boxes, pen making, wall shelves, chess and cutting boards.

Woodworking II
45410

Credit:
0.5

\$40/Semester

Grade:
9-12

Prerequisites: Woodworking I
Graduation Req: Practical Arts

This is an advanced level course for individuals who are interested in progressing their woodworking skills and core knowledge. Emphasis will be placed on joinery, individual design and construction of a variety of projects, such as laminates and small furniture construction. Projects may include, but are not limited to: segmented bowl making, outdoor/indoor furniture, advanced pen making, wall shelves and organizers.

Woodworking III
45411

Credit:
0.5

\$40/Semester

Grade:
10-12

Prerequisites: Woodworking II
Graduation Req: Practical Arts

Woodworking III provides continuing instruction in woodworking with a blend of historic and modern technology skills. This course includes in-depth instruction of hand tools, power tools, custom made tools, advanced woodworking techniques, drafting and wood science. Students will be required to design and build a complex piece of furniture. In addition, students will be introduced to 21st century technology options that are and will be available in real-world situations.

Introduction to Metals
45650

Credit:
0.5

\$30/Semester

Grad
9-12

Prerequisites: None
Graduation Req: Practical Arts

This course explores how metal is formed and used in manufacturing through laboratory work in the following areas: arc welding, gas welding, forging and sheet metal.