

# TRADES AND INDUSTRY DIVISION

## Areas of Study

**Automotive Technology** – Associate of Applied Science Degree, Advanced Technical Certificate, Technical Certificate, and Postsecondary Technical Certificates (PSTC)  
 Automotive Automatic Transmission and Transaxle Specialist, PSTC  
 Automotive Brake Specialist, PSTC  
 Automotive Electronic Specialist, PSTC  
 Automotive Engine Performance Specialist, PSTC  
 Automotive Engine Repair Specialist, PSTC  
 Automotive Heating & Air Conditioning Specialist, PSTC  
 Automotive Power Trains, Suspension & Steering Specialist, PSTC

**Diesel Technology** – Associate of Applied Science Degree, Advanced Technical Certificate, and Postsecondary Technical Certificates (PSTC)

Diesel Engine Specialist, PSTC  
 Diesel Fuel Injection Specialist, PSTC  
 Diesel Heavy Duty Brake Specialist, PSTC  
 Diesel Heavy Duty Drive Train Specialist, PSTC  
 Diesel Heavy Duty Electrical System, PSTC

**Welding Technology** – Associate of Applied Science Degree, Advanced Technical Certificate, and Technical Certificate

### Options

Welding students who desire less than the Technical Certificate may develop a training outline with assistance from the instructor.

### Faculty

Kent Berggren, Division Manager  
 Corey Shurtliff  
 Don Martin  
 Bill Swenson  
 Colby Park  
 Lonnie Brown  
 Tommy Ogawa  
 Wilma Scott

The Trades and Industry Division is designed to meet the demand for trained entry level technicians and welders. The program provides training using the latest competency-based curriculum and practical hands-on experience.

The Automotive and Diesel technicians are needed to repair, service, and overhaul a variety of automotive/light duty trucks, construction, industrial, farm, and trucking industry machines.

The qualified Welder can find employment at several levels. Welding is considered a tool or skill by many trades, such as pipefitters, sheet metal ironworkers, boilermakers, bridge builders, fabricating shops, and production lines.

Students will spend approximately two hours per day in the classroom and four and one-half hours per day performing hands-on training in the labs.

It is recommended that applicants possess strong computer skills prior to enrolling in the program.

Applicants must be able to lift 50 lbs., twist and bend in various positions as needed, have good health and good vision, as well as a proven mechanical aptitude and a strong desire to work in the Mechanical/Industrial Trades area. Automotive and Diesel students must possess a valid driver's license at the time of application and must maintain one throughout the program.

### Program Costs

In addition to the semester registration fees, Automotive and Diesel students can expect to spend an approximate total of \$4,000 on

books and tools per program and approximately \$55 per semester for overall rental.

Welding students can expect to spend approximately \$475 on books, tools, and equipment for the technical certificate option or \$800 for the advanced technical certificate and AAS options.

Graduates are required to sit for proficiency exams at the conclusion of their program. Information regarding costs and dates for the exams will be posted in the online catalog and available from the program instructor(s).

\* Please note that all Trades and Industry students must take and pass MTD-101 and ASE 102

## Automotive and Diesel

The State of Idaho and Eastern Idaho Technical College have adopted the eight Automotive Service Excellence (ASE) areas as guidelines for our Automotive and Diesel programs. Our Automotive and Diesel Technology programs meet the criteria for certification in each of the eight areas of study listed by the National Automotive Technicians Education Foundation (NATEF). All instructors in the Automotive and Diesel programs are Automotive Service Excellence (ASE) Master certified. Upon successful completion of the theory portion of the courses, the student will complete the practical experience of that course. Troubleshooting and repairs will be performed on mock-ups and live work projects in the College lab as they are available. Our students are trained to meet ASE certification standards.

Short-term classes are available in specialty areas for which students may earn specialized Postsecondary Technical Certificates. For times and dates, contact the Trades and Industry Division at (208) 524-3000, extension 3373.



## AUTOMOTIVE TECHNOLOGY

### Intended Learning Outcomes

- Use current technical diagnostic procedures to diagnose and repair to industry standards all eight areas of modern automobiles and light trucks.
- Demonstrate by performing all safety procedures including the use of tools and equipment during all related shop activities.
- Locate and use current repair procedures and information from computer based programs and written text.
- Understand, demonstrate, and value attributes of professionalism.
- Properly prepare hand written and electronic documents that are accurate, legible, and clearly understood.

**Automotive Technology***Associate of Applied Science Degree*

80 Credits

**Semester 1**

ASE 141	Automotive Suspension & Steering Systems	2	
ASE 163	Introduction to Automotive Electronics	5	
ASE 172	Basic Heating and Air Conditioning	4	
ASE 185	Ignition Systems	2	
MAT 110	Technical Mathematics	3	
MTD 101	Industrial Safety and Report Writing	3	

**Semester 2**

ASE 111	Basic Power Plant Systems	2	
ASE 112	Upper Power Plant Systems	2	
ASE 113	Lower Power Plant Systems	2	
ASE 121	Automatic Transmissions	3	
ASE 131	Manual Drivetrain & Axles	2	
ASE 151	Automotive Brake Systems	2	
ENG 101	English Composition	3	

**Summer Term**

PSY 101	Introduction to Psychology	3	OR
SOC 101	Introduction to Sociology	3	
	General Education Elective	3	

**Semester 3**

ASE 221	Computer Controlled Automatic Transmissions	3	
ASE 242	Advanced Suspension & Steering Systems	2	
ASE 252	Antilock & Power Brake Systems	2	
ASE 262	Automotive Electronics	2	
ASE 264	Advanced Automotive Electronic Component Testing and Safety	3	
ASE 272	Advanced Heating and Air Conditioning	2	
COM 101	Fundamentals of Speech	3	

**Semester 4**

ASE 102	Workplace Technical Skills	3	
ASE 184	Basic Computer Controlled Engines Systems	2	
ASE 285	Gasoline Fuel Injection Systems	3	
ASE 286	Computer Controlled Engines Systems	3	
ASE 287	Emission Control Systems	3	
ASE 288	On Board Diagnostics II	1	
ASE 294	Automotive Trends	3	

**Night Course in Fall or Spring Semester**

MAT 123	Mathematics in Modern Society	4	AND
MAT 123L	Mathematics in Modern Society Lab	0	OR
MAT 143	College Algebra	4	

**Enhancement**

CIS 101	Computer Information Systems	3	
---------	------------------------------	---	--

**Automotive Technology***Advanced Technical Certificate*

64 Credits

**Semester 1**

ASE 141	Automotive Suspension & Steering Systems	2	
ASE 163	Introduction to Automotive Electronics	5	
ASE 172	Basic Heating and Air Conditioning	4	
ASE 185	Ignition Systems	2	
MAT 110	Technical Mathematics	3	
MTD 101	Industrial Safety and Report Writing	3	

**Semester 2**

ASE 111	Basic Power Plant Systems	2	
ASE 112	Upper Power Plant Systems	2	
ASE 113	Lower Power Plant Systems	2	
ASE 121	Automatic Transmissions	3	
ASE 131	Manual Drivetrain & Axles	2	
ASE 151	Automotive Brake Systems	2	

**Semester 3**

ASE 221	Computer Controlled Automatic Transmissions	3	
ASE 242	Advanced Suspension & Steering Systems	2	
ASE 252	Antilock & Power Brake Systems	2	
ASE 262	Automotive Electronics	2	
ASE 264	Advanced Automotive Electronic Component Testing and Safety	3	
ASE 272	Advanced Heating and Air Conditioning	2	

**Semester 4**

ASE 102	Workplace Technical Skills	3	
ASE 184	Basic Computer Controlled Engines Systems	2	
ASE 285	Gasoline Fuel Injection Systems	3	
ASE 286	Computer Controlled Engines Systems	3	
ASE 287	Emission Control Systems	3	
ASE 288	On Board Diagnostics II	1	
ASE 294	Automotive Trends	3	

**Enhancement**

CIS 101	Computer Information Systems	3	
---------	------------------------------	---	--

**Automotive Technology***Technical Certificate*

35 Credits

**Semester 1**

ASE 141	Automotive Suspension & Steering Systems	2	
ASE 163	Introduction to Automotive Electronics	5	
ASE 172	Basic Heating and Air Conditioning	4	
ASE 185	Ignition Systems	2	
MAT 110	Technical Mathematics	3	
MTD 101	Industrial Safety and Report Writing	3	

**Semester 2**

ASE 102	Workplace Technical Skills	3	
ASE 111	Basic Power Plant Systems	2	
ASE 112	Upper Power Plant Systems	2	
ASE 113	Lower Power Plant Systems	2	
ASE 121	Automatic Transmissions	3	
ASE 131	Manual Drivetrain & Axles	2	
ASE 151	Automotive Brake Systems	2	

**Automotive Automatic Transmission & Transaxle Specialist***Postsecondary Technical Certificate*

20 Credits

ASE 121	Automatic Transmissions	3	
ASE 131	Manual Drivetrain & Axles	2	
ASE 163	Introduction to Automotive Electronics	5	
ASE 184	Basic Computer Controlled Engines Systems	2	
ASE 221	Computer Controlled Automatic Transmissions	3	
ASE 262	Automotive Electronics	2	
ASE 286	Computer Controlled Engines Systems	3	

**Automotive Brake Specialist**

*Postsecondary Technical Certificate* 11 Credits

ASE 151	Automotive Brake Systems	2
ASE 163	Introduction to Automotive Electronics	5
ASE 184	Basic Computer Controlled Engines Systems	2
ASE 252	Antilock & Power Brake Systems	2

ASE 163	Introduction to Automotive Electronics	5
ASE 242	Advanced Suspension & Steering Systems	2

**Automotive Electronics Specialist**

*Postsecondary Technical Certificate* 14 Credits

ASE 163	Introduction to Automotive Electronics	5
ASE 184	Basic Computer Controlled Engines Systems	2
ASE 185	Ignition Systems	2
ASE 262	Automotive Electronics	2
ASE 264	Advanced Automotive Electronic Component Testing and Safety	3

**Automotive Engine Performance Specialist**

*Postsecondary Technical Certificate* 24 Credits

ASE 163	Introduction to Automotive Electronics	5
ASE 184	Basic Computer Controlled Engines Systems	2
ASE 185	Ignition Systems	2
ASE 262	Automotive Electronics	2
ASE 285	Gasoline Fuel Injection Systems	3
ASE 286	Computer Controlled Engines Systems	3
ASE 287	Emission Control Systems	3
ASE 288	On Board Diagnostics II	1
ASE 294	Automotive Trends	3

**Automotive Engine Repair Specialist**

*Postsecondary Technical Certificate* 8 Credits

ASE 111	Basic Power Plant Systems	2
ASE 112	Upper Power Plant Systems	2
ASE 113	Lower Power Plant Systems	2
ASE 185	Ignition Systems	2

**Automotive Heating & Air Conditioning Specialist**

*Postsecondary Technical Certificate* 18 Credits

ASE 163	Introduction to Automotive Electronics	5
ASE 172	Basic Heating and Air Conditioning	4
ASE 184	Basic Computer Controlled Engines Systems	2
ASE 262	Automotive Electronics	2
ASE 272	Advanced Heating and Air Conditioning	2
ASE 286	Computer Controlled Engines Systems	3

**Automotive Power Trains, Suspension & Steering Specialist**

*Postsecondary Technical Certificate* 11 Credits

ASE 131	Manual Drivetrain & Axles	2
ASE 141	Automotive Suspension & Steering Systems	2



**DIESEL TECHNOLOGY**

**Intended Learning Outcomes**

- Use current technical diagnostic procedures to diagnose and repair to industry standards all eight areas of heavy duty trucks and equipment.
- Demonstrate by performing all safety procedures including the use of tools and equipment during all related shop activities.
- Locate and use current repair procedures and information from computer based programs and written text.
- Understand, demonstrate, and value attributes of professionalism.
- Properly prepare hand written and electronic documents that are accurate, legible, and clearly understood.

**Diesel Technology**

*Associate of Applied Science Degree* 80 Credits

**Semester 1**

ASE 141	Automotive Suspension & Steering Systems	2
ASE 163	Introduction to Automotive Electronics	5
ASE 172	Basic Heating and Air Conditioning	4
ASE 185	Ignition Systems	2
MAT 110	Technical Mathematics	3
MTD 101	Industrial Safety and Report Writing	3

**Semester 2**

ASE 111	Basic Power Plant Systems	2
ASE 112	Upper Power Plant Systems	2
ASE 113	Lower Power Plant Systems	2
ASE 121	Automatic Transmissions	3
ASE 131	Manual Drivetrain & Axles	2
ASE 151	Automotive Brake Systems	2
ENG 101	English Composition	3

**Summer Term**

PSY 101	Introduction to Psychology	3 OR
SOC 101	Introduction to Sociology	3
	General Education Elective	3