

Automotive Technology

automotive.chemeketa.edu

2009–2010 Chemeketa Community College Catalog

Do you want to become an automotive service and repair technician? The Automotive Technology program emphasizes technical training and development of skills through the study of the various systems of the automobile. The certificate programs have been designed to be completed in one year and the degree program in two years, and they offer training for auto body repair and auto machine shop, including courses in auto heating and air conditioning, welding, general education courses, and Cooperative Work Experience. Students in the degree program must attend full time.

The instruction, course of study, facilities, and equipment of the Automotive Technology program have been evaluated by the National Automotive Technicians Education Foundation (NATEF), and meet the National Institute for Automotive Service Excellence (ASE) Standards of Quality for the training of automobile technicians in all eight automotive specialty areas (Master Certification).

To help you work effectively with people, the program also includes written and oral communications classes and general education electives. The curriculum emphasizes related scientific, mathematical, and general mechanical principles.

Program outcomes

Students completing the Automotive Body Repair certificate will:

- Perform tasks related to collision repair, painting, brakes, electrical/electronic systems, suspension and steering, and heating and air conditioning systems.
- Analyze, diagnose and perform repairs related to auto body systems in I-CAR specialty areas.
- Identify and use tools, testing and measuring equipment required to perform automotive body repair.
- Perform personal and environmental safety practices associated with clothing; eye protection; hand tools; power equipment and handling, storage and disposal of chemicals in accordance with local, state, and federal safety and environmental regulations.
- Practice professional and ethical behaviors as applied to the workplace environment.
- Use industry standard automotive terminology and clarifying language to communicate orally and in writing with customers, suppliers, supervisors, and co-workers.

Students completing the Automotive Entry Level Technician certificate will:

- Perform tasks related to electrical/electronic systems, suspension and steering and heating and air conditioning.
- Analyze, diagnose and perform repairs related to electrical/electronic systems, suspension and steering and heating and air conditioning.

- Identify and use tools, testing and measuring equipment required to perform diagnosis and repairs to electrical/electronic systems, suspension and steering and heating and air conditioning.
- Perform personal and environmental safety practices associated with clothing; eye protection; hand tools; power equipment; and handling, storage and disposal of chemicals in accordance with local, state, and federal safety and environmental regulations.
- Practice professional and ethical behaviors as applied to the workplace environment.
- Use industry standard automotive terminology and clarifying language to communicate orally and in writing with customers, suppliers, supervisors, and co-workers.

Students completing the Automotive Machining certificate will:

- Perform tasks related to engine repair and engine machining.
- Analyze, diagnose and perform repairs related to engine repair and engine machining in the Automotive Service Excellence areas.
- Identify and use tools, testing and measuring equipment required to perform automotive machining operations.
- Perform personal and environmental safety practices associated with clothing; eye protection; hand tools; power equipment and handling, storage and disposal of chemicals in accordance with local, state, and federal safety and environmental regulations.
- Practice professional and ethical behaviors as applied to the workplace environment.
- Use industry standard automotive terminology and clarifying language to communicate orally and in writing with customers, suppliers, supervisors, and co-workers.

Students completing the AAS will:

- Perform tasks related to brakes, electrical/electronic systems, engine performance and repair, suspension and steering, automatic transmissions and transaxles, heating and air conditioning systems, and manual drive train and axles.
- Analyze, diagnose, and repair automotive components and systems in the Automotive Service Excellence areas.
- Identify and use appropriate tools and testing and measuring equipment required to perform automotive service.
- Comply with personal and environmental safety practices associated with clothing; eye protection; hand tools; power equipment; and handling, storage, and disposal of chemicals in accordance with local, state, and federal safety and environmental regulations.
- Practice professional and ethical behaviors as applied to the workplace environment.
- Use industry standard automotive terminology and clarifying language to communicate orally and in writing with customers, suppliers, supervisors, and co-workers.

Chemeketa Community College

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Getting started

The Automotive AAS degree, and the Auto Body Repair and Automotive Machining certificate programs have special admission requirements and enrollment limits. The first step to entering this program is to take the college's free placement test and meet with Counseling and Career Services staff, 503.399.5120. There are entry-level expectations for skill levels in reading, writing, and mathematics. Your advisor will help you develop an individualized program of study, which may include one or more of the following:

MTH020	Basic Mathematics	4
RD090	College Textbook Reading.....	3
WR049	Basic Writing.....	4

If you have questions about the requirements, call Counseling and Career Services at 503.399.5120 or 503.399.5210. Failure to be assessed may delay your entry into program classes.

For admission to the program, an application is required. This is a separate step from the testing and assessment steps. Applications are available in Counseling and Career Services, Admissions, and the Automotive program staff office in Building 4, Room 292. Enrollment in these programs is limited, and there is an early deadline for applications. All applicants must attend the Automotive Technology Orientation as a prerequisite for acceptance into the program. We recommend that you contact Counseling and Career Services at 503.399.5120, or the Automotive Technology program chair at 503.399.6521 for details if you are considering the Automotive Technology degree, or Auto Body Repair, Automotive Machining, or Automotive Entry Level Certificate programs. To enroll, you must have a high school diploma or GED certificate.

You may be interested in our Cooperative Work Experience program, which allows you to earn college credit for work you do relating to your program. To be eligible for on-site Cooperative Work Experience, students must maintain a 2.50 or higher GPA in Automotive Technology courses. With the approval of the program chair, you may enroll in AUM280B-L Cooperative Work Experience and earn college credit hours. For more information, look under Cooperative Work Experience in the catalog index.

Automotive Body Repair Certificate of Completion

In addition to tuition, estimated costs for students who complete the entire program listed below are books, \$305; class fees, \$162; universal fee, \$376; equipment and supplies, \$1,800. Contact the Financial Aid Office at 503.399.5018 to find out if you qualify for help with these costs.

You may earn a Certificate of Completion by successfully completing the required 47 credit hours with a grade of "C" or better in AUM courses.

General Education requirements (12 credit hours):

Course	Title	Credit Hours
COM051	Communications Skills 1+	3
	or	
WR121	English Composition—Exposition+ (or higher).....	3
CIS101	Introduction to Microcomputer Applications (or higher)	3
MTH052	Introduction to Algebra and Geometry+ (or higher)	3
PSY101	Psychology of Human Relations (or higher).....	3

Automotive Body core requirements (20 credit hours):

AUM168	Automotive Electrical Systems 1.....	5
AUM184	Automotive Materials and Resources.....	1
AUM280L	Cooperative Work Experience.....	12
WLD097	Welding.....	2
	or	
WLD061	Basic Gas Metal Arc Welding (MIG)	3

Automotive Body Repair electives

(select a minimum of 15 credit hours):

AUM151	Basic Automotive Engines.....	5
AUM157	Automotive Brake Systems	6
AUM158	Automotive Steering and Suspension.....	5
AUM286	Automotive Heating and Air Conditioning.....	5

Automotive Entry Level Technician Certificate of Completion

This certificate provides students with basic skills in key high-demand automotive repair and maintenance systems, including brakes, electrical, suspension, steering, and climate control. The program is designed to allow students with full-time employment or other daytime commitments the ability to attend classes and obtain a certificate in a one-year period. (There are no prerequisites or special application requirements for admission to this program.)

In addition to tuition, estimated costs for students who complete the entire program listed below are books, \$352; class fees, \$98; universal fee, \$216. Contact the Financial Aid Office at 503.399.5018 to find out if you qualify for help with these costs.

You may earn a Certificate of Completion by successfully completing the required 27 credit hours with a grade of "C" or better in AUM courses.

General Education requirements (9 credit hours):

Course	Title	Credit Hours
COM051	Communications Skills 1+	3
MTH052	Introduction to Algebra and Geometry+ (or higher)	3
PSY104	Psychology In the Workplace+	3

Automotive Entry Level Technician core requirements (18 credit hours):

AUM159	Automotive Chassis Systems	5
AUM168	Automotive Electrical Systems 1.....	5
AUM286	Automotive Heating and Air Conditioning.....	5
AUM280C	Cooperative Work Experience.....	3

Automotive Machining Certificate of Completion

This certificate emphasizes machining and rebuilding automotive engines. A significant portion of the training is done on the job as well as through specific training on campus.

In addition to tuition, estimated costs for students who complete the entire program listed below are books, \$290; class fees, \$240; universal fee, \$448; equipment and supplies, \$1,800. Contact the Financial Aid Office at 503.399.5018 to find out if you qualify for help with these costs.

You may earn a Certificate of Completion by successfully completing the required 56 credit hours with a grade of "C" or better in AUM courses.

General Education requirements (12 credit hours):

Course	Title	Credit Hours
COM051	Communication Skills 1+	3
	or	
WR121	English Composition—Exposition+ (or higher).....	3
CIS101	Introduction to Microcomputer Applications (or higher)	3
MTH052	Introduction to Algebra and Geometry+ (or higher)	3
PSY101	Psychology of Human Relations+ (or higher)	3

**Automotive Machining core requirements
(44 credit hours):**

Course	Title	Credit Hours
AUM151	Basic Automotive Engines.....	5
AUM184	Automotive Materials and Resources.....	1
AUM185A	Automotive Machining Fundamentals.....	3
AUM186A	Automotive Lathe Fundamentals	3
AUM187A	Automotive Milling Machine Processes	3
AUM188	Auto Machine Shop—Upper Engine.....	3
AUM189	Auto Machine Shop—Lower Engine	3
AUM190	Auto Machine Shop—Engine Assembly	3
AUM253	Automotive Engines 2	4
AUM280L	Cooperative Work Experience.....	12
WLD077	Welding Processes.....	4

**Automotive Technology Associate
of Applied Science**

In addition to tuition, estimated costs for students who complete the entire program listed below are books, \$900; class fees, \$618; universal fee, \$856; equipment and supplies, \$1,800. Contact the Financial Aid Office at 503.399.5018 to find out if you qualify for help with these costs.

You may earn an Associate of Applied Science degree by successfully completing these 106 required credit hours with a grade of "C" or better in AUM courses.

Course	Title	Credit Hours
Term 1		
AUM151	Basic Automotive Engines.....	5
AUM158	Automotive Steering and Suspension.....	5
AUM184	Automotive Materials and Resources.....	1
COM051	Communication Skills 1+	3
	or	
WR121	English Composition—Exposition+ (or higher).....	3
PH060	Applied Physical Science (or higher)	3

Term 2

AUM152	Automotive Machine Shop	4
AUM157	Automotive Brake Systems	6
	or	
AUM159	Automotive Chassis Systems	5
AUM168	Automotive Electrical Systems 1.....	5

Term 3

AUM161	Manual Drive Trains and Axles 1.....	5
AUM176	Automotive Electrical Systems 2.....	5
CIS101	Introduction to Microcomputer Applications (or higher)	3
PSY101	Psychology of Human Relations+ (or higher)	3
	or	
PSY104	Psychology in the Workplace	3
MTH052	Introduction to Algebra and Geometry+ (or higher)	3

Term 4

AUM262	Manual Drive Trains and Axles 2.....	4
AUM263	Automatic Transmissions and Transaxles 1	5
AUM266	Basic Fuel Systems	5
AUM277	Automotive Electrical Systems 3.....	5

Term 5

AUM267	Advanced Fuel Systems.....	5
AUM282	Electronic Vehicle Controls	5
AUM286	Automotive Heating and Air Conditioning.....	5
COM052	Communication Skills 2	3
	or	
WR122	English Composition—Logic and Style (or higher)	3

Term 6

AUM253	Automotive Engines 2	4
	or	
AUM280D	Cooperative Work Experience.....	4
AUM273	Automatic Transmissions and Transaxles 2	4
	or	
AUM280D	Cooperative Work Experience.....	4
AUM281	Advanced Driveability and Emissions	5
AUM283	Electronic Powertrain Controls	4
WLD097	Welding.....	2
	or	
WLD077	Welding Processes.....	4