

# AUT AUTOMOTIVE TECHNOLOGY

## Courses

	Hr/Wk Lect/ Disc	Hr/Wk Clin Lab	Sem Cr Hr
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**AUT.101 Spark Ignition Engines 1** 1 4 3

This course is designed to introduce the student to the spark ignition engine. Emphasis will be placed on engine nomenclature, operation, rebuild procedure, and precision measuring instruments relative to the course. The student will perform a complete rebuild on a furnished engine with evaluation of the work performed on an engine dynamometer.

Offered: Fall

Applicable toward graduation at Sandburg where program structure permits:

Degree or Certificate - AGS and Automotive Technology Certificate (1.2).  
General Education -- Not Applicable

**AUT.103 Braking Systems** 1 3 2

This course is designed to include all aspects of the braking system with emphasis on brake repair and diagnosis. The student will learn to operate a brake lathe. Students will also utilize computer scanners to diagnose ABS brake problems.

Offered: Spring

Applicable toward graduation at Sandburg where program structure permits:

Degree or Certificate - AGS and Automotive Technology Certificate (1.2).  
General Education -- Not Applicable

**AUT.105 Electrical Systems** 2 2 3

This course is designed to cover the basic electrical systems found on late model automobiles. Electricity/electronic theory will be covered with an emphasis on DC circuits. The student will be exposed to an in-depth use of test equipment relative to diagnosis of electrical systems problems.

Offered: Fall

Applicable toward graduation at Sandburg where program structure permits:

Degree or Certificate - AGS and Automotive Technology Certificate (1.2).  
General Education -- Not Applicable

**AUT.107 Shop Practices 1** 2.5 4.5 4

This course is designed to enhance student skills by repairing automobiles in a simulated dealership setting. Emphasis will be placed on student following repair practices utilized in local dealerships. Customer automobiles will be used in this course.

Offered: Fall

Applicable toward graduation at Sandburg where program structure permits:

Degree or Certificate - AGS and Automotive Technology Certificate (1.2).  
General Education -- Not Applicable

**AUT.110 Auto Math** 1 2 2

This course focuses on the math pertinent to the automotive field. Arithmetic, geometry, trigonometry, and basic algebra are the concepts that will be stressed. Lab assignments applying the aforementioned concepts will be given during this course to enhance the students' practical skills. The metric system will also be discussed and applied throughout the course.

Offered: Fall

Prerequisites: Placement into MAT.083 or equivalent.

Applicable toward graduation at Sandburg where program structure permits:

Degree or Certificate: AAS, AGS and Certificates where applicable (1.2).  
General Education -- Not Applicable

**AUT.124 Engine Performance Design** .5 1 1

This course pertains to designing an engine to meet performance objectives. Analytical methods of design will be applied before parts are selected. Performance software will be utilized for design analysis.

Offered: As Needed

Prerequisites: AUT.110

Applicable toward graduation at Sandburg where program structure permits:

Degree or Certificate: AAS, AGS and Certificates where applicable (1.2).  
General Education -- Not Applicable

**AUT.201 Ignition Systems** 2 2 3

This course is designed to include all aspects of ignition systems with emphasis on operation, repair and diagnosis. The student will utilize electronic ignition test equipment and computer scanners to diagnose and monitor late model computer controlled engines.

Offered: Fall

Applicable toward graduation at Sandburg where program structure permits:

Degree or Certificate - AGS and Automotive Technology Certificate (1.2).  
General Education -- Not Applicable

**AUT.202 Steering Suspension & Front Wheel Dr** 1.5 3 3

This course is designed to expose student to an in-depth use of a four wheel computer controlled alignment machine. Student will inspect/repair front end components of vehicles prior to performing alignment. Shock and strut replacement will be covered along with tire repair and balancing.

Offered: Spring

Applicable toward graduation at Sandburg where program structure permits:

Degree or Certificate - AGS and Automotive Technology Certificate (1.2).  
General Education -- Not Applicable

**AUT.203 Manual Transmission & Dr Trains** 1 3 2

This course is designed to include all aspects of manual transmissions and drive trains with emphasis on repair and diagnosis. The student will be exposed to an in-depth study of gear ratios and their effects on torque and speed. Differential and transaxles will also be covered in this course.

Offered: Spring

Applicable toward graduation at Sandburg where program structure permits:

Degree or Certificate - AGS and Automotive Technology Certificate (1.2).  
General Education -- Not Applicable

**AUT.204 Automatic Transmissions** 1.5 3 3

This course is designed to include repair procedures and diagnosis of automatic transmissions and transaxles. The student will be responsible for rebuilding and testing two transmissions/transaxles. Maintenance procedures will also be covered in this course.

Offered: Spring

Applicable toward graduation at Sandburg where program structure permits:

Degree or Certificate - AGS and Automotive Technology Certificate (1.2).

General Education -- Not Applicable

**AUT.206 Heating and Air Conditioning** 1 3 2

This course is designed to include all aspects of heating and air conditioning with emphasis on repair, diagnosis and system charging utilizing all safety precautions. The student will operate an AC reclaiming system for removing and charging the AC system.

Offered: Spring

Applicable toward graduation at Sandburg where program structure permits:

Degree or Certificate - AGS and Automotive Technology Certificate (1.2).

General Education -- Not Applicable

**AUT.209 Shop Practices 2** 6 2

This course is designed to enhance previous skills obtained and apply those skills in a simulated dealership setting. Emphasis will be on accuracy or repair and diagnosis with a decrease in repair time. The student will be required to maintain repair orders and purchase request sheets.

Offered: Spring

Prerequisites: The completion of all technical courses in the automotive technology certificate.

Applicable toward graduation at Sandburg where program structure permits:

Degree or Certificate: AGS and Certificates where applicable (1.2).

General Education -- Not Applicable