

Automotive Technology – Automotive Technology Internship Program

Associate in Applied Science

Minimum of 66 credit hours

In OCCC's Automotive Technology Degree Programs, you'll learn:

- A.S.E. engine performance, engine repair, suspension and steering and brakes and new products.
- Electrical theory and automotive heat and air conditioning theory
- Brake system repair and diagnosis, anti-lock brake system diagnosis, alignment procedures and theory and suspension diagnosis

The automotive technology degree programs offer traditional classes as well as individual-paced (IP) courses to fit with your needs and lifestyle.

This degree program is accredited by the ASE Education Foundation.

COURSE SEQUENCE

Course ID	Course Name	Credits	Type	Min GD
Term 1				
AT 1013	Automotive Student Success Initiative Students will participate in four disciplines designed to prepare students to be successful in automotive programs requiring internships. Students will be required to complete the Automotive Safety, Job Interview Skills, Mentoring, and Introduction to Electricity courses. The student must successfully complete the safety course consisting of specific automotive related safety issues as well as those specific to Oklahoma City Community College. The student will continue with a Job Interview Skills course consisting of writing a resume and how to conduct a successful interview, with a mock video taped interview being required. The student will also complete the Mentoring program with both student and sponsoring dealership personnel participating. The student will finally complete an Introduction to Electricity course to ensure basic concepts and abilities are present to ensure entry level skills are present when the student begins the Automotive Program. This course is a prerequisite for all automotive courses in programs requiring an internship. Prerequisites: None	3	Life Skills	
AT 2224	A.S.E. Electrical Systems The student will apply competencies in battery, starting, charging, lighting, driver information, horn, wiper/washer, and accessory systems. Additionally, the student will demonstrate principles of electricity, magnetism, voltage and current regulation and basic circuitry as applied in automotive electrical systems to aid in general diagnosis of automotive electrical problems. Prerequisites: MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.	4	Major	
AUTO SUP ELEC	Automotive Support Electives MGMT 2053 or AT 1153	3	Support	
Term 2				
AT 1244	A.S.E. Brakes This course is an application of specific competencies in hydraulic system, drum brake system, disc brake system diagnosis and repair procedures. Also, the student will discuss and demonstrate competencies in power assist unit diagnosis and repair as well as wheel bearing, parking brake circuit and associated electrical circuit diagnosis and repair, which includes ABS systems. Prerequisites: MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.	4	Major	
AT 2001	Career Experience	1	Major	

The student will demonstrate the ability to work effectively as a full-time employee at a sponsoring dealership and will demonstrate specified competencies and develop service skills by working and performing service and repair operations in areas related to coursework completed the preceding term. Enrollment may be repeated with a change in work emphasis. **Prerequisites:**
MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.

ENGL 1113 English Composition I 3 Gen Ed

The student will write well-developed compositions which demonstrate the principles of unity, coherence, and organization and which contain specific details and vivid language. The students will locate library material and incorporate researched materials into compositions. **Prerequisites:**
ENGL 0203, adequate placement score, or by meeting determined placement measures

Term 3

AT 1224 A.S.E. Suspension and Steering 4 Major
This course is an application of basic competencies in steering systems, suspension systems and wheel alignment diagnosis, adjustment and repair. The student will further discuss and demonstrate an understanding of wheel and tire diagnosis and repair. **Prerequisites:**
MATH 0103 or adequate math placement and ENGL 0203 or adequate math placement test score, or by meeting determined placement measures.

AT 2001 Career Experience 1 Major
The student will demonstrate the ability to work effectively as a full-time employee at a sponsoring dealership and will demonstrate specified competencies and develop service skills by working and performing service and repair operations in areas related to coursework completed the preceding term. Enrollment may be repeated with a change in work emphasis. **Prerequisites:**
MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.

AT 2101 A.S.E. Certification 1 Major
The student will demonstrate competencies in engine repair, automatic transmission/transaxle, manual drive train and axles, suspension and steering, brakes, electrical systems, heating and air conditioning, and engine performance. This course is designed for individuals seeking A.S.E. certification which requires previous completion of related training. **Prerequisites:**
ENGL 0203 or adequate placement score, or by meeting determined placement measures.

Term 4

AT 2234 A.S.E. Heating and Air Conditioning Systems 4 Major
The student will apply competencies in air conditioning system diagnosis and repair as well as diagnosis and repair of refrigeration system components, heating and engine cooling systems and control units. This course satisfies the computer proficiency requirement. **Prerequisites:**
MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.

MATH 1483 Functions and Modeling OR Gen Ed
The student will demonstrate: an understanding of the general concepts of relation and function and specifically of polynomial, rational, exponential and logarithmic functions; the ability to solve systems of equations by utilizing matrices and determinants; and, the ability to solve practical problems using algebraic and digital techniques. **Prerequisites:**
MATH 0313 or adequate math placement; ENGL 0203, adequate placement score, or by meeting determined placement measures

MATH 1503 Contemporary Mathematics OR Gen Ed
A study of the mathematics needed for critical evaluation of quantitative information and arguments (including logic, critical appraisal of graphs and tables); use of simple mathematical models, and an introduction to elementary statistics. **Prerequisites:**
MATH 0313 or adequate math placement. Pre or Co-requisite ENGL 0203

MATH 2013 Introduction to Statistics 3 Gen Ed
The student will solve problems applying the concepts of random sampling, elementary probability, testing hypotheses, descriptive measures, chi-square, regression and correlation, and analysis of variance. **Prerequisites:**
MATH 0313 or adequate math placement; ENGL 0203, adequate placement score, or by meeting determined placement measures

Term 5

AT 2001 Career Experience 1 Major

The student will demonstrate the ability to work effectively as a full-time employee at a sponsoring dealership and will demonstrate specified competencies and develop service skills by working and performing service and repair operations in areas related to coursework completed the preceding term. Enrollment may be repeated with a change in work emphasis. **Prerequisites:**
MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.

HIST 1483	U.S. History to 1877	OR	Gen Ed
	After analyzing events in American history from 1400 to 1877 in such areas as revolution, geographic and social mobility, political reform, government precedents and war, students will be able to identify patterns of present day mobility, describe governmental operations in their society and help resolve conflict in society based on the student's search for change, precedents, and conflict in the American past. A general education requirement. Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures		
HIST 1493	U.S. History 1877 to Present	3	Gen Ed
	After analyzing events in American history from 1877 to the present in such areas as geographic and social mobility, political reform, government precedents and war, students will be able to identify patterns of present day mobility, describe governmental operations in their society and help resolve conflict in society based on the student's search for change, precedents, and conflict in the American past. A general education requirement. Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures		
POLSC 1113	American Federal Government	3	Gen Ed
	A study of the principles, structure, processes and functions of the United States federal government. Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures		

Term 6

AT 1214	A.S.E. Engine Repair	4	Major
	The student will discuss and demonstrate competencies in general engine diagnosis and in cylinder head, valve train, engine block diagnosis and repair, as well as lubrication, cooling, fuel, exhaust, ignition, battery and starting system diagnostic and repair procedures. Prerequisites: MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.		
AT 2001	Career Experience	1	Major
	The student will demonstrate the ability to work effectively as a full-time employee at a sponsoring dealership and will demonstrate specified competencies and develop service skills by working and performing service and repair operations in areas related to coursework completed the preceding term. Enrollment may be repeated with a change in work emphasis. Prerequisites: MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.		

Term 7

AT 2204	A.S.E. Manual Drive Trains	4	Major
	The student will apply specific competencies in general transmission and transaxle diagnosis. Additionally, the student will demonstrate competencies in transmission/transaxle maintenance, adjustment and in and off vehicle repair. Prerequisites: MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.		
BUS 2033	Business Communication	3	Gen Ed
	Business Communication is a survey course of communication skills needed in the business environment. Course content includes writing memoranda, letters, reports, resumes, and electronic messages; creating an analytical report; delivering oral presentations; and developing interpersonal skills. Critical thinking and problem solving skills are emphasized. Development of these skills is integrated with the use of technology. Prerequisites: ENGL 1113 or by evaluation. Criteria for evaluation is in division office.		

Term 8

AT 1204	A.S.E. Engine Performance	4	Major
	The student will discuss and demonstrate general engine diagnostic procedures. Additionally, the student will demonstrate specific competencies in the diagnosis and repair of ignition systems, fuel, air induction systems, and exhaust systems, emission control systems, and engine electronic systems. Prerequisites: MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.		
AT 2001	Career Experience	1	Major

The student will demonstrate the ability to work effectively as a full-time employee at a sponsoring dealership and will demonstrate specified competencies and develop service skills by working and performing service and repair operations in areas related to coursework completed the preceding term. Enrollment may be repeated with a change in work emphasis. **Prerequisites:** MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.

AUTO MAJ ELEC	Automotive Major Electives	4	Major
Automotive Major Electives chosen from the following: AT 1422; AT 2422; AT 1652; AT 2652			

Term 9

AT 2214	A.S.E. Automatic Transmissions/transaxles	4	Major
The student will apply specific competencies in general transmission and transaxle diagnosis. Additionally, the student will demonstrate competencies in transmission/transaxle maintenance, adjustment and in and off vehicle repair. Prerequisites: MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.			
ENGL 1233	Technical Writing for the Workplace	OR	Gen Ed
This course will expose students to technical communication and will allow students to practice professional methods of writing in the workplace. In addition to constructing technical documents appropriate for use in professional and job-related environments, students will learn about rhetorical methods for presenting technical information in ethical and formal prose designed for clear and effective communication with employers and colleagues. This course will equip the student with written and oral communication skills necessary for sharing information and discussing content in professional settings; developing an awareness of technical genres; utilizing technological platforms for constructing documents; using visuals and graphics professionally; writing professional correspondence; constructing reports; designing project proposals; and composing instructions. Prerequisites: ENGL 1113 or ENGL 1103; MATH 0203 College Prep Math II or adequate Math Placement Test Score			
COM 1123	Interpersonal Communications	OR	Gen Ed
The student will be able to identify why certain things happen as they do when two or more individuals come together to communicate for a specific purpose. The student must attest to his or her ability to understand the principles of interpersonal communication with emphasis on dyads, small groups, analysis of communication models and nonverbal communication, applying understanding to the major types of interpersonal communication problems in the work environment and in daily human relations. Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures			
COM 2213	Intro to Public Speaking	3	Gen Ed
Given the principles of effective listening and speaking, the student will assimilate those skills into his or her physical and psychological worlds. After being exposed to public, business and professional speaking, the student will apply the principles of invention, organization, style, and delivery through practical exercises and will use the principles of rhetorical criticism in discussing speeches delivered in class. Prerequisites: ENGL 0106 or adequate placement score			

COURSE GROUPING

Major Courses: (42 credit hours) AT 1204; AT 1214; AT 1224; AT 1244; AT 2204 AT 2214; AT 2224; AT 2234; AT 2101; Five hours of AT 2001; Automotive major elective (choose from AT 1422, AT 2422, AT 1652, AT 2652).

General Education Courses: (18 credit hours) English: ENGL 1113; ENGL 1233, COM 1123, or COM 2213; History: HIST 1483 or HIST 1493; Political Science: POLSC 1113; Business Communication: BUS 2033; MATH 1483, MATH 1503, or MATH 2013.

Life Skills Courses: (3 credit hours) AT 1013 Support Courses: (3 credit hours) MGMT 2053 or AT 1153

PROGRAM NOTES

Notes: This Technical and Occupational program is designed to prepare students to enter the job force following completion. See Technical and Occupational Programs in the general information section of the catalog.

COURSE DESCRIPTIONS

AUTOMOTIVE TECHNOLOGY

AT 1013 - Automotive Student Success Initiative

Students will participate in four disciplines designed to prepare students to be successful in automotive programs requiring internships. Students will be required to complete the Automotive Safety, Job Interview Skills, Mentoring, and Introduction to Electricity courses. The student must successfully complete the safety course consisting of specific automotive related safety issues as well as those specific to Oklahoma City Community College. The student will continue with a Job Interview Skills course consisting of writing a resume and how to conduct a successful interview, with a mock video taped interview being required. The student will also complete the Mentoring program with both student and sponsoring dealership personnel participating. The student will finally complete an Introduction to Electricity course to ensure basic concepts and abilities are present to ensure entry level skills are present when the student begins the Automotive Program. This course is a prerequisite for all automotive courses in programs requiring an internship.

Prerequisites: None

Credits: 3

AT 1204 - A.S.E. Engine Performance

The student will discuss and demonstrate general engine diagnostic procedures. Additionally, the student will demonstrate specific competencies in the diagnosis and repair of ignition systems, fuel, air induction systems, and exhaust systems, emission control systems, and engine electronic systems.

Prerequisites: MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.

Credits: 4

AT 1214 - A.S.E. Engine Repair

The student will discuss and demonstrate competencies in general engine diagnosis and in cylinder head, valve train, engine block diagnosis and repair, as well as lubrication, cooling, fuel, exhaust, ignition, battery and starting system diagnostic and repair procedures.

Prerequisites: MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.

Credits: 4

AT 1224 - A.S.E. Suspension and Steering

This course is an application of basic competencies in steering systems, suspension systems and wheel alignment diagnosis, adjustment and repair. The student will further discuss and demonstrate an understanding of wheel and tire diagnosis and repair.

Prerequisites: MATH 0103 or adequate math placement and ENGL 0203 or adequate math placement test score, or by meeting determined placement measures.

Credits: 4

AT 1244 - A.S.E. Brakes

This course is an application of specific competencies in hydraulic system, drum brake system, disc brake system diagnosis and repair procedures. Also, the student will discuss and demonstrate competencies in power assist unit diagnosis and repair as well as wheel bearing, parking brake circuit and associated electrical circuit diagnosis and repair, which includes ABS systems.

Prerequisites: MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.

Credits: 4

AT 2001 - Career Experience

The student will demonstrate the ability to work effectively as a full-time employee at a sponsoring dealership and will demonstrate specified competencies and develop service skills by working and performing service and repair operations in areas related to coursework completed the preceding term. Enrollment may be repeated with a change in work emphasis.

Prerequisites: MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.

Credits: 1

AT 2101 - A.S.E. Certification

The student will demonstrate competencies in engine repair, automatic transmission/transaxle, manual drive train and axles,

suspension and steering, brakes, electrical systems, heating and air conditioning, and engine performance. This course is designed for individuals seeking A.S.E. certification which requires previous completion of related training.

Prerequisites: ENGL 0203 or adequate placement score, or by meeting determined placement measures.

Credits: 1

AT 2204 - A.S.E. Manual Drive Trains

The student will apply specific competencies in general transmission and transaxle diagnosis. Additionally, the student will demonstrate competencies in transmission/transaxle maintenance, adjustment and in and off vehicle repair.

Prerequisites: MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.

Credits: 4

AT 2214 - A.S.E. Automatic Transmissions/transaxles

The student will apply specific competencies in general transmission and transaxle diagnosis. Additionally, the student will demonstrate competencies in transmission/transaxle maintenance, adjustment and in and off vehicle repair.

Prerequisites: MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.

Credits: 4

AT 2224 - A.S.E. Electrical Systems

The student will apply competencies in battery, starting, charging, lighting, driver information, horn, wiper/washer, and accessory systems. Additionally, the student will demonstrate principles of electricity, magnetism, voltage and current regulation and basic circuitry as applied in automotive electrical systems to aid in general diagnosis of automotive electrical problems.

Prerequisites: MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.

Credits: 4

AT 2234 - A.S.E. Heating and Air Conditioning Systems

The student will apply competencies in air conditioning system diagnosis and repair as well as diagnosis and repair of refrigeration system components, heating and engine cooling systems and control units. This course satisfies the computer proficiency requirement.

Prerequisites: MATH 0103 or adequate math placement and ENGL 0203 or adequate placement score, or by meeting determined placement measures.

Credits: 4

BUSINESS

BUS 2033 - Business Communication

Business Communication is a survey course of communication skills needed in the business environment. Course content includes writing memoranda, letters, reports, resumes, and electronic messages; creating an analytical report; delivering oral presentations; and developing interpersonal skills. Critical thinking and problem solving skills are emphasized. Development of these skills is integrated with the use of technology.

Prerequisites: ENGL 1113 or by evaluation. Criteria for evaluation is in division office.

Credits: 3

COMMUNICATIONS

COM 1123 - Interpersonal Communications

The student will be able to identify why certain things happen as they do when two or more individuals come together to communicate for a specific purpose. The student must attest to his or her ability to understand the principles of interpersonal communication with emphasis on dyads, small groups, analysis of communication models and nonverbal communication, applying understanding to the major types of interpersonal communication problems in the work environment and in daily human relations.

Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures

Credits: 3

COM 2213 - Intro to Public Speaking

Given the principles of effective listening and speaking, the student will assimilate those skills into his or her physical and psychological worlds. After being exposed to public, business and professional speaking, the student will apply the principles of invention, organization, style, and delivery through practical exercises and will use the principles of rhetorical criticism in discussing speeches delivered in class.

Prerequisites: ENGL 0106 or adequate placement score

Credits: 3

ELECTIVES

AUTO MAJ ELEC - Automotive Major Electives

Automotive Major Electives chosen from the following: AT 1422; AT 2422; AT 1652; AT 2652

Credits: 4

ENGLISH

ENGL 1113 - English Composition I

The student will write well-developed compositions which demonstrate the principles of unity, coherence, and organization and which contain specific details and vivid language. The students will locate library material and incorporate researched materials into compositions.

Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures

Credits: 3

ENGL 1233 - Technical Writing for the Workplace

This course will expose students to technical communication and will allow students to practice professional methods of writing in the workplace. In addition to constructing technical documents appropriate for use in professional and job-related environments, students will learn about rhetorical methods for presenting technical information in ethical and formal prose designed for clear and effective communication with employers and colleagues. This course will equip the student with written and oral communication skills necessary for sharing information and discussing content in professional settings; developing an awareness of technical genres; utilizing technological platforms for constructing documents; using visuals and graphics professionally; writing professional correspondence; constructing reports; designing project proposals; and composing instructions.

Prerequisites: ENGL 1113 or ENGL 1103; MATH 0203 College Prep Math II or adequate Math Placement Test Score

Credits: 3

HISTORY

HIST 1483 - U.S. History to 1877

After analyzing events in American history from 1400 to 1877 in such areas as revolution, geographic and social mobility, political reform, government precedents and war, students will be able to identify patterns of present day mobility, describe governmental operations in their society and help resolve conflict in society based on the student's search for change, precedents, and conflict in the American past. A general education requirement.

Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures

Credits: 3

HIST 1493 - U.S. History 1877 to Present

After analyzing events in American history from 1877 to the present in such areas as geographic and social mobility, political reform, government precedents and war, students will be able to identify patterns of present day mobility, describe governmental operations in their society and help resolve conflict in society based on the student's search for change, precedents, and conflict in the American past. A general education requirement.

Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures

Credits: 3

MATHEMATICS

MATH 1483 - Functions and Modeling

The student will demonstrate: an understanding of the general concepts of relation and function and specifically of polynomial, rational, exponential and logarithmic functions; the ability to solve systems of equations by utilizing matrices and determinants; and, the ability to solve practical problems using algebraic and digital techniques.

Prerequisites: MATH 0313 or adequate math placement; ENGL 0203, adequate placement score, or by meeting determined placement measures

Credits: 3

MATH 1503 - Contemporary Mathematics

A study of the mathematics needed for critical evaluation of quantitative information and arguments (including logic, critical appraisal of graphs and tables); use of simple mathematical models, and an introduction to elementary statistics.

Prerequisites: MATH 0313 or adequate math placement. Pre or Co-requisite ENGL 0203

Credits: 3

MATH 2013 - Introduction to Statistics

The student will solve problems applying the concepts of random sampling, elementary probability, testing hypotheses, descriptive measures, chi-square, regression and correlation, and analysis of variance.

Prerequisites: MATH 0313 or adequate math placement; ENGL 0203, adequate placement score, or by meeting determined placement measures

Credits: 3

POLITICAL SCIENCE

POLSC 1113 - American Federal Government

A study of the principles, structure, processes and functions of the United States federal government.

Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures

Credits: 3