

# 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 certified by the National Automotive Technicians Automotive Program (NATEF) and is ASE preparatory.

### Course Sequence

Course ID	Course Name	Credits	Type	Min Gd
<b>Suggested Entry Summer Semester</b>				
AT 1013	Automotive Student Success Initiative	3	Life Skills	
<b>Suggested Freshman 1st Semester</b>				
AT 2224	A.S.E. Electrical Systems	4	Major	
AT 1244	A.S.E. Brakes	4	Major	
FA SUPPORT	Faculty Approved Support Electives	3	Support	
AT 2001	Career Experience	1	Major	
<b>Suggested Freshman 2nd Semester</b>				
AT 1224	A.S.E. Suspension and Steering	4	Major	
AT 2234	A.S.E. Heating and Air Conditioning Systems	4	Major	
AT 2001	Career Experience	1	Major	
POLSC 1113	American Federal Government	3	Gen Ed	
<b>Suggested Freshman Summer Semester</b>				
ENGL 1113	English Composition I	3	Gen Ed	
AT 2001	Career Experience	1	Major	
MATH 1503	Contemporary Mathematics	OR	Gen Ed	
MATH 1513	College Algebra for Business, Life Sciences and Social Sciences	OR	Gen Ed	
MATH 2013	Introduction to Statistics	3	Gen Ed	
<b>Suggested Sophomore 1st Semester</b>				
AT 1214	A.S.E. Engine Repair	4	Major	
AT 2204	A.S.E. Manual Drive Trains	4	Major	
AT 2001	Career Experience	1	Major	
ENGL 1233	Technical Writing for the Workplace	OR	Gen Ed	
COM 1123	Interpersonal Communications	OR	Gen Ed	
COM 2213	Intro to Public Speaking	3	Gen Ed	
<b>Suggested Sophomore 2nd Semester</b>				
AT 1204	A.S.E. Engine Performance	4	Major	
AT 2214	A.S.E. Automatic Transmissions/transaxles	4	Major	
AT 2001	Career Experience	1	Major	
BUS 2033	Business Communication	3	Gen Ed	
<b>Suggested Sophomore Summer Semester</b>				
HIST 1483	U.S. History to 1877	OR	Gen Ed	
HIST 1493	U.S. History 1877 to Present	3	Gen Ed	
FA AT	Faculty Approved Automotive Elective	4	Major	
AT 2101	A.S.E. Certification	1	Major	

### 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; Four hours of faculty approved automotive elective.

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 1503, MATH 1513, or MATH 2013.

Life Skills Courses: (3 credit hours) AT 1013

Support Courses: (3 credit hours) Among possible courses, students might choose to select: 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.

## Degree Program Course Descriptions

### **AT 1013 - Automotive Student Success Initiative**

*Prerequisites: None*

3 Credits 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. This course satisfies the computer proficiency requirement.

### **AT 1204 - A.S.E. Engine Performance**

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

4 Credits 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. This course satisfies the computer proficiency requirement.

### **AT 1214 - A.S.E. Engine Repair**

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

4 Credits 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. This course satisfies the computer proficiency requirement.

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

*Prerequisites: MATH 0103 or adequate math placement test score and ENGL 0203 or*

*adequate math placement test score, or by meeting determined placement measures.*

4 Credits 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. This course satisfies the computer proficiency requirement.

### **AT 1244 - A.S.E. Brakes**

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

4 Credits 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. This course satisfies the computer proficiency requirement.

### **AT 2001 - Career Experience**

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

1 Credit 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. This course satisfies the computer proficiency requirement.

### **AT 2101 - A.S.E. Certification**

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

1 Credit 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. This course satisfies the computer proficiency requirement.

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

*Prerequisites: MATH 0103 or adequate math placement test score and ENGL 0203 or*

*adequate placement score, or by meeting determined placement measures.*

4 Credits 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. This course satisfies the computer proficiency requirement.

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

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

4 Credits 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. This course satisfies the computer proficiency requirement.

### **AT 2224 - A.S.E. Electrical Systems**

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

4 Credits 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. This course satisfies the computer proficiency requirement.

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

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

4 Credits 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.

### **BUS 2033 - Business Communication**

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

3 Credits Business Communication is a survey course of communication skills needed in the business environment. Course

content includes business writing such as e-mail, memos, letters, reports, employment communication, and other types of digital media; delivering oral presentations; and developing interpersonal soft skills. Critical thinking and problem solving skills are emphasized. Development of these skills is integrated with the use of technology. This course satisfies the computer proficiency requirement.

### **COM 1123 - Interpersonal Communications**

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

3 Credits 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.

### **COM 2213 - Intro to Public Speaking**

*Prerequisites: ENGL 0106 or adequate placement score*

3 Credits 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.

### **ENGL 1113 - English Composition I**

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

3 Credits 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.

### **ENGL 1233 - Technical Writing for the Workplace**

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

3 Credits 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..

### **FA AT - Faculty Approved Automotive Elective**

*Prerequisites: None*

Credit Faculty approved Automotive elective

### **FA SUPPORT - Faculty Approved Support Electives**

3 Credits Faculty approved support electives

### **HIST 1483 - U.S. History to 1877**

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

3 Credits 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.

### **HIST 1493 - U.S. History 1877 to Present**

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

3 Credits 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.

### **MATH 1503 - Contemporary Mathematics**

*Prerequisites: MATH 0403 or adequate math placement test score. Pre or Co-requisite ENGL 1113 or ENGL 1103*

3 Credits 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. This course satisfies the computer proficiency requirement.

### **MATH 1513 - College Algebra for Business, Life Sciences and Social Sciences**

*Prerequisites: MATH 0403 or adequate math placement test score; ENGL 0203, adequate placement score, or by meeting determined placement measures*

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

### **MATH 2013 - Introduction to Statistics**

*Prerequisites: MATH 0403 or adequate math placement test score; ENGL 0203, adequate placement score, or by meeting determined placement measures*

3 Credits 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.

### **POLSC 1113 - American Federal Government**

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

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