

Automotive Technology

AT 1000 Special Topics

Prerequisites: None

VARIABLE 1-3 Credits The student will demonstrate specified competencies in subjects not included in other automotive courses, but which benefit students wanting additional training in the field or comprehension of the field. A specific topic is announced for each offering. Enrollment may be repeated with a change of topic. This course satisfies the computer proficiency requirement.

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 1153 Basic Automotive Fundamentals

Prerequisites:

3 Credits This course is an application of specific competencies in the operation and service repair of vehicles in the areas of: maintenance and minor vehicle service. Usage of service manuals, manufacturers procedures, tools, and safety are stressed. The student will discuss nomenclature and operating principles of basic automotive fundamentals. Also, the student will discuss and perform diagnostic and service procedures used to maintain these specific systems. The student will show competency in the areas of changing fluids, flush equipment, tire repair, tire balance, vehicle vibration diagnosis, and scan tool usage. This course satisfies the computer proficiency requirement.

AT 1204 A.S.E. Engine Performance

Prerequisites: MATH 0103 or adequate math placement 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 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 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 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 1304 GM Engine Repair

Prerequisites: MATH 0103 or adequate math placement, ENGL 0203 or adequate placement score, or by meeting determined placement measures. Special admission procedures required.

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 on current General Motors vehicles. This course satisfies the computer proficiency requirement.

AT 1314 GM Electrical Systems

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

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 on current General Motors vehicles. This course satisfies the computer proficiency requirement.

AT 1324 GM Engine Performance

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

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 on current General Motors vehicles. This course satisfies the computer proficiency requirement.

AT 1334 GM Brakes

Prerequisites: MATH 0103 or adequate math placement, or by evaluation and ENGL 0203 or adequate placement score, or by meeting determined placement measures. Special admission procedures required.

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 on current General Motors vehicles. This course satisfies the computer proficiency requirement.

AT 1422 GM New Products I

Prerequisites: MATH 0103 or adequate math placement, or by evaluation and ENGL 0203 or adequate placement score, or by meeting determined placement measures. § Criteria for evaluation is in division office. Special admission procedures required.

2 Credits The student will discuss and demonstrate specific competencies in subject not included in other ASEP automotive courses, which subjects will benefit students needing additional General Motors product service training in new technology and specialized areas. A specific topic is announced for each offering. This course satisfies the computer proficiency requirement.

AT 1612 A.S.E. Engine Performance

Prerequisites: MATH 0103 or adequate math placement, or by evaluation and ENGL 0203 or adequate placement score, or by meeting determined placement measures. § Criteria for evaluation is in division office.

2 Credits This is an individual-paced (IP) course. 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 electric systems. This course satisfies the computer proficiency requirement.

AT 1622 A.S.E. Engine Repair

Prerequisites: MATH 0103 or adequate math placement, or by evaluation and ENGL 0203 or adequate placement score, or by meeting determined placement measures. § Criteria for evaluation is in division office.

2 Credits This is an individual-paced (IP) course. 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 1632 A.S.E. Suspension and Steering

Prerequisites: MATH 0103 or adequate math placement, or by evaluation and ENGL 0203 or adequate placement score, or by meeting determined placement measures. § Criteria for evaluation is in division office.

2 Credits This is an individual-paced (IP) course. 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 1642 A.S.E. Brakes

Prerequisites: MATH 0103 or adequate math placement, or by evaluation and ENGL 0203 or adequate placement score, or by meeting determined placement measures. § Criteria for evaluation is in division office.

2 Credits This is an individual-paced (IP) course. 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 1652 A.S.E. Automotive Electives I

Prerequisites: MATH 0103 or adequate math placement, or by evaluation and ENGL 0203 or adequate placement score, or by meeting determined placement measures. § Criteria for evaluation is in division office.

2 Credits This is an individual-paced (IP) course. The student will discuss and demonstrate specific competencies in subjects not included in another ATIP automotive courses, which will benefit those needing additional automotive training in new technology and specialized areas. A specific topic is announced for each offering. This course satisfies the computer proficiency requirement.

AT 1733 Body and Electrical Service

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

3 Credits The student will demonstrate competencies in electrical theory and automotive heat and air conditioning theory, general body accessory and electrical service including automotive air conditioning/heating systems repair and diagnosis, battery charging, lighting and repair. This course satisfies the computer proficiency requirement.

AT 1753 Under Vehicle Service

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

3 Credits The student will demonstrate competencies in vehicle brake systems, steering systems and suspension systems. These competencies will include brake system repair and diagnosis, anti-lock brake system diagnosis, alignment procedures and theory, and suspension diagnosis. This course satisfies the computer proficiency requirement.

AT 1773 Powertrain Service

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

3 Credits The student will demonstrate competencies in engine repair and engine performance that will include general engine diagnosis, engine repair, valve train design, cooling system diagnosis, ignition system diagnosis, emission control system diagnosis and engine control diagnosis. This course satisfies the computer proficiency requirement.

AT 2001 Career Experience

Prerequisites: MATH 0103 or adequate math placement 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 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 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 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 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.

AT 2304 GM Suspension and Steering

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

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 on current General Motors vehicles. This course satisfies the computer proficiency requirement.

AT 2314 GM Manual Drive Trains

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

4 Credits This course is an application of specific competencies in clutch, standard transmission and transaxle, drive (half) shaft and universal joint, rear axle and four- and/or all-wheel drive component diagnosis and repair procedures on current General Motors vehicles. This course satisfies the computer proficiency requirement.

AT 2324 GM Automatic Transmissions and Transaxles

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

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 on current General Motors vehicles. This course satisfies the computer proficiency requirement.

AT 2334 GM Heating and Air Conditioning Systems

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

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 on current General Motors vehicles. This course satisfies the computer proficiency requirement.

AT 2422 GM New Products II

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

2 Credits The student will discuss and demonstrate specific competencies in subjects not included in other ASEP automotive courses, which subjects will benefit students needing additional General Motors product service training in new technology and specialized areas. A specific topic is announced for each offering. This course satisfies the computer proficiency requirement.

AT 2612 A.S.E. Manual Drive Trains

Prerequisites: MATH 0103 or adequate math placement, or by evaluation and ENGL 0203 or adequate placement score, or by meeting determined placement measures. § Criteria for evaluation is in division office.

2 Credits This is an individual-paced (IP) course. This course is an application of specific competencies in clutch, standard transmission and transaxle, drive (half) shaft and universal joint, rear axle and four- and/or all-wheel drive component diagnosis and repair procedures. This course satisfies the computer proficiency requirement.

AT 2622 A.S.E. Automatic Transmissions/transaxles

Prerequisites: MATH 0103 or adequate math placement, or by evaluation and ENGL 0203 or adequate placement score, or by meeting determined placement measures. § Criteria for evaluation is in division office.

2 Credits This is an individual-paced (IP) course. The student will apply specific competencies in general transmission and transaxle diagnosis. Additionally, the student will demonstrate competencies in transmission/transaxle maintenance and adjustments. This course satisfies the computer proficiency requirement.

AT 2632 A.S.E. Electrical Systems

Prerequisites: MATH 0103 or adequate math placement, or by evaluation and ENGL 0203 or adequate placement score, or by meeting determined placement measures. § Criteria for evaluation is in division office.

2 Credits This is an individual-paced (IP) course. The student will apply competencies in battery, starting, charging, lighting, drive 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 2642 A.S.E. Heating and Air Conditioning Systems

Prerequisites: MATH 0103 or adequate math placement, or by evaluation and ENGL 0203 or adequate placement score, or by meeting determined placement measures. § Criteria for evaluation is in division office.

2 Credits This is an individual-paced (IP) course. 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.

AT 2652 A.S.E. Automotive Electives II

Prerequisites: MATH 0103 or adequate math placement, or by evaluation and ENGL 0203 or adequate placement score, or by meeting determined placement measures. § Criteria for evaluation is in division office.

2 Credits This is an individual-paced (IP) course. The student will discuss and demonstrate specific competencies in subjects not included in other ATIP automotive courses, which will benefit those needing additional automotive training in new technology and specialized areas. A specific topic is announced for each offering. This course satisfies the computer proficiency requirement.