

ARTS-276 Pottery & Clay Arts II 3 cr.
Continuation of ARTS 275. Prerequisites: ARTS-275.
Offered: Fall & Spring.

ARTS-283 Pottery & Clay Arts III 3 cr.
Continuation of pottery and clay techniques for the advanced pottery student. Focus will be on production pottery and development of personal style. Prerequisites: ARTS-276. Offered: Fall & Spring.

AUTOMOTIVE SERVICE EXCELLENCE PROGRAM (GENERAL MOTORS)

ASEP-110 Shop Fundamentals & Safety 1 cr.
This course will orient the student to shop operations, use of service manuals, pay structures, tools, warranties, and customer relations. Shop safety will be strongly emphasized as well as employee/employer relations. Offered: Fall.

ASEP-120 GM Electrical & Ignition Syst. 7 cr.
A study of the electrical and electronic systems found in the automotive field. Emphasis is on basic circuitry, starting systems, charging systems, ignition systems, diagnosis and servicing the electrical components on current GM model vehicles. Corequisites: ASEP 110. Offered: Fall.

ASEP-125 General Motors Hybrid Technology 3 cr.
This course will explain and demonstrate theory and operation of key General Motors hybrid vehicle systems and components. Knowledge retention and subject understanding will be enhanced by interactive classroom components whenever possible. Procedures for handling high voltage batteries will be covered. Personal safety will be emphasized. Corequisites: ASEP-120. Offered: Fall.

ASEP-130 GM Fuel & Emission Syst. 4 cr.
A study of the fuel and emission systems used on current GM model vehicles. Students will learn to use the exhaust gas analyzer, oscilloscopes, and other special equipment. Prerequisites: ASEP-120. Corequisites: ASEP-140. Offered: Spring.

ASEP-135 General Motors Vehicle Networks 3 cr.
This course will explore the complex, on-board computer networks found on modern GM vehicles. The CAN network will be emphasized as will the proper techniques for isolating, diagnosing and repairing complex automotive computer networks. Safety will be emphasized. Prerequisites: ASEP-120. Corequisites: ASEP-140. Offered: Spring.

ASEP-140 GM Drivability 4 cr.
A systematic troubleshooting method for General Motors fuel, electrical and electronic systems. Use of tools and equipment needed for proper diagnosis emphasized. Corequisites: ASEP-130 Offered: Spring.

ASEP-145 ASE Tests 1 cr.
Students must be registered for a minimum of two ASE exams and pass one. Offered: Spring.

ASEP-146 ASE Tests 1 cr.
Take and pass remaining ASE exams. Students are required to pass a minimum of four ASE exams in order to graduate. Any tests passed in ASEP 145 are counted as part of the requirement. Prerequisites: ASEP-145. Offered: Spring.

ASEP-150 GM Engines & Related Systems 4 cr.
This course covers the principles and operation of the internal combustion engine. Engines will be properly disassembled for component identification. All parts will be inspected, measured, and reassembled. The oiling and cooling system will also be covered. Corequisites: ASEP-160. Offered: Summer.

ASEP-155 General Motors Adv Air Induction Systems 2 cr.
This course covers variable valve timing, turbo chargers and superchargers. The theory, operation and diagnosis of each of these systems will be covered and the manufacturers diagnostic and repair procedures will be stressed. Personal and vehicle safety will be emphasized. Prerequisites: ASEP-140. Corequisites: ASEP-150. Offered: Summer.

ASEP-160 GM Heating & Air Conditioning 2 cr.
A theory and shop course to teach the student GM heating, air conditioning systems, and controls. The student will learn to diagnose and recover refrigerant, evacuate, and recharge air conditioning systems. Corequisites: ASEP-150. Offered: Summer.

ASEP-165 GM Advanced HVAC Diagnosis 3 cr.
This course will cover advanced diagnosis theory and practice on GM vehicle heating, air conditioning and ventilation systems. The course will address computer based HVAC controls as well as the network of sensors. Environmental and personal safety will be emphasized. Prerequisites: ASEP-140. Corequisites: ASEP-160. Offered: Summer.

ASEP-170 GM Power Trains 8 cr.
The theory and practical application of automotive power trains, including clutches, transmissions, drive lines, transaxles and differential service will be taught. Diagnosis, troubleshooting and actual repair procedures will be performed on General Motors vehicles in the shop. Prerequisites: ASEP-160. Offered: On Demand.

ASEP-172 GM Automatic Trans/Transaxles 6 cr.
The operating principles of GM automatic transmissions, transaxles, and their diagnosis, electrical and electronic controls, and repair will be covered. Instruction on noise, vibration and harshness diagnosis and correction will also be covered along with mechanical and hydraulic components. Safety is emphasized. Corequisites: ASEP-175. Offered: Fall.

ASEP-175 General Motors Manual Trans/Transaxles 5 cr.
The theory and repair of GM manual transmissions and transaxles, differentials, clutches, transfer cases and drive axles will be covered. Noise, hard shifting and other common concerns will be addressed. Diagnosis and troubleshooting will be stressed. Safety is emphasized. Corequisites: ASEP-172. Offered: Fall.

ASEP-180 GM Brake Systems 4 cr.
A study of the theory, diagnosis and repair procedures of General Motors disc and drum brake systems will be taught. Instruction

will be given on brake machining equipment, hydraulic systems and component replacement on traditional and anti-lock brake systems. Prerequisites: ASEP-170 or ASEP 175. Corequisites: ASEP-190. Offered: Spring.

ASEP-185 GM ABS & Traction Cont System 1 cr.

This course will cover Anti-Lock Brake System, Anti-Slip Systems and Traction control systems and include theory, diagnosis and repair procedures as outlined in factory service information. Electric power steering motors, sensors and circuitry will be included. Safety will be emphasized. Corequisites: ASEP-180. Offered: Spring.

ASEP-190 GM Steering & Suspension 4 cr.

A theory and shop course to introduce the student to steering geometry, front and rear suspension service, wheel alignment, and wheel balancing. Lab work will include instruction on the latest GM vehicles' steering and suspension systems. Corequisites: ASEP-180. Offered: Spring.

ASEP-195 GM Computer Controlled Suspensions 1 cr.

This course will cover the theory of operation of the electrical, mechanical, and hydraulic systems of the computer controlled suspension systems on GM vehicles. Proper service procedures and techniques will be presented. Safety will be emphasized. Corequisites: ASEP-190. Offered: Spring.

ASEP-280 GM Cooperative Work Education 4 cr.

The student will be employed at an approved General Motors automotive repair facility which will provide relevant learning experiences that are directly related to the student's most recent classroom/laboratory experiences. Daily logs and weekly reports MUST be submitted electronically once per week. The student will be supervised and evaluated jointly by his/her employer and San Juan College personnel. Prerequisites: ASEP-120. Offered: On Demand.

ASEP-281 GM Cooperative Work Education 4 cr.

The student will be employed at an approved General Motors automotive repair facility which will provide relevant learning experiences that are directly related to the student's most recent classroom/laboratory experiences. Daily logs and weekly reports MUST be submitted electronically once per week. The student will be supervised and evaluated jointly by his/her employer and San Juan College personnel. Prerequisites: ASEP-140. Offered: On Demand.

ASEP-282 GM Cooperative Work Education 4 cr.

The student will be employed at an approved General Motors automotive repair facility which will provide relevant learning experiences that are directly related to the student's most recent classroom/laboratory experiences. Daily logs and weekly reports MUST be submitted electronically once per week. The student will be supervised and evaluated jointly by his/her employer and San Juan College personnel. Prerequisites: ASEP-160. Offered: On Demand.

ASEP-283 GM Cooperative Work Education 4 cr.

The student will be employed at an approved General Motors automotive repair facility which will provide relevant learning experiences that are directly related to the student's most recent classroom/laboratory experiences. Daily logs and weekly report MUST be submitted electronically once per week. The student will

be supervised and evaluated jointly by his/her employer and San Juan College personnel. Prerequisites: ASEP-170 or 175. Offered: On Demand.

ASTRONOMY

ASTR-110 Intro to Astronomy 4 cr.

Observation, theories, and methods of modern astronomy. General study for non-science majors. [NM Common Course Number ASTR 1114, Area III; Laboratory Science Core] Prerequisites: PHYS-111, high school chemistry, or high school physics. Offered: Fall & Spring.

ASTR-113 Constellation Mythology 3 cr.

A study of the ancient mythological stories and philosophies of world cultures as seen in the patterns of stars in the night sky. A basic grounding in Greco-Roman myths and representations of star patterns will be compared to other world cultures, including, but not limited to, Native American, Chinese, Arabic, South Pacific, and Arctic. Offered: Fall & Spring.

ASTR-120 Deep Space Astronomy 3 cr.

Conceptual study of cosmology and relativity, emphasizing the Einsteinian perceptions of gravity, matter, energy, and space-time geometry. Also examines in detail anomalistic subjects such as black holes, wormholes, "white fountains", and obstacles to superluminal ("faster than light") travel. Prerequisites: ASTR-110.

AUTO BODY

AUBO-119 Sheet Metal Welding 4 cr.

This course is designed to introduce the students to MIG welding procedures, set up and terminology used in sheet metal welding. The students will be exposed to all areas of MIG, oxy acetylene, and plasma torch industry safety. This course will provide the students with the basic knowledge and hands on experience to successfully demonstrate proper sheet metal welds in a variety of joints and welding positions. Offered: Fall & Spring.

AUBO-121 Non-Structural Repair 6 cr.

This basic auto body course is designed to develop the students understanding of general shop safety using hand tools, pneumatic tools and power tools. This course will also cover: straightening fundamentals, plastic and composite repair, panel replacement, and adjustments. Prerequisites: AUBO-119. Offered: Fall & Spring.

AUBO-122 Advanced Non-Structural Repair I 5 cr.

This course will involve the students in all phases of minor non-structural collision damage repairs. This course will encompass sheet metal repair, advanced panel replacement and alignment. Prerequisites: AUBO-121. Offered: Fall & Spring.

AUBO-123 Advanced Non-Structural Repair II 5 cr.

This course is a continuation of AUBO 122 with emphasis in all phases of minor non-structural damage repair. The student will be instructed in sheet metal repair and panel alignment as well as the R&I of automotive glass and related components. Prerequisites: AUBO-122. Offered: Fall & Spring.