

BADM-280 Cooperative Education 3 cr.
Supervised cooperative work program. Student is employed in an approved business occupation. Student will be supervised and rated by the employer and instructor. Student Meets in a weekly class and/or report on a variety of films, reading, or seminars. Semester offered: On Demand.

CHEMISTRY

CHEM-110 Introductory Chemistry (3+2p) 4 cr.
An introductory survey of general chemistry including: scientific and dimensional analysis, interactions of heat, light, and electric fields with matter, atomic and molecular structure, reaction dynamics, acid-base systems, and electrochemistry. Fulfills lab science requirement for non-science majors and as an introductory course for students with no prior chemistry. Prerequisite: MATH 096 or equivalent. Semester offered: Fall, Spring and Summer. [NM Common Course Number CHEM 1114, Area III; Laboratory Science Core]

CHEM-111 General Chemistry I (3+3p) 4 cr.
Part one of the general study of atomic systems including: scientific and dimensional analysis, states of matter, thermochemistry, atomic structure, chemical bonding, molecular geometry, liquid crystal, thin film, and ceramic materials. For engineering and pre-professional majors. Prerequisite: MATH 115 or equivalent; high school chemistry with grade of B or better within the last four years, or CHEM 110 with grade of C or better. Semester offered: Fall and Spring. [NM Common Course Number CHEM 1214, Area III; Laboratory Science Core]

CHEM-112 General Chemistry II (3+3p) 4 cr.
Part two of the general study of atomic systems including: kinetics, catalysis, acid-base systems, thermodynamics, electro-chemistry, nuclear chemistry, reaction optimization, industrial processes, and coordination chemistry. For engineering and pre-professional majors. Prerequisite: MATH 185, or equivalent, CHEM 111 or equivalent. Semester offered: Fall and Spring. [NM Common Course Number CHEM 1224, Area III; Laboratory Science Core]

CHEM-210 Organic Chemistry Survey 4 cr.
A one semester survey for students requiring a brief coverage of important classes of organic compounds and their application to metabolism. Coverage includes nomenclature, preparation, chemical transformations of functional groups and reaction mechanisms. Prerequisites: CHEM 110 or CHEM 111. Semester offered: On Demand.

CHEM-251 Organic Chemistry I (3+3p) 4 cr.
Part one of the study of carbon compound chemistry covering: atomic and molecular orbitals; structure and reaction mechanisms of alkanes, alkenes, and alcohols; laboratory synthesis; gas chromatography; infrared, mass, and nuclear magnetic resonance spectroscopies. For pre-professional majors. Prerequisite: CHEM 112 (recommended) or equivalent; or CHEM 111 with corequisite CHEM 112. Semester offered: Fall.

CHEM-252 Organic Chemistry II (3+3p) 4 cr.
Part two of the study of carbon compound chemistry covering: structure and reaction mechanisms of carboxyl, amine, conjugated, and

polyfunctional systems; ultraviolet spectroscopy; bio-chemistry; and synthetic polymers. Prerequisite: CHEM 251 or equivalent. Semester offered: Spring.

CHEM-281 Analytical Chemistry (3+5p) 5 cr.
Fundamentals of instrumental chemical analysis. Topics include: statistical methods, digital control and data acquisition, gas/liquid chromatography, emission/absorption spectroscopy, capillary electrophoresis, volumetric, gravimetric, and electrochemical analysis. For chemistry and some pre-professional majors. Prerequisite: CHEM 112. Semester offered: On Demand.

COLLEGE AUTOMOTIVE PROGRAM (Chrysler)

CAPP-110 Chrysler Shop-Fund and 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. Corequisite: CAPP 120. Semester offered: Fall.

CAPP-120 Chrysler Electrical and Ignition System 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 Chrysler vehicles. Instruction will include test equipment related to ignition, electrical, and electronic devices. Course includes specific DaimlerChrysler training. Corequisite: CAPP 110. Semester offered: Fall.

CAPP-130 Chrysler Fuel and Emission System 4 cr.
A study of the fuel and emission control systems used on current Chrysler vehicles. Students will learn to use the exhaust gas analyzer, oscilloscope, and other special test equipment. Course includes specific Chrysler training. Prerequisites: CAPP 110, CAPP 120, CAPP 280. Corequisite: CAPP 140. Semester offered: Spring.

CAPP-140 Chrysler Drivability Diagnosis and Repair 4 cr.
A systematic troubleshooting method for Chrysler fuel, electrical, and electronic systems. Use of tools and equipment needed for proper diagnosis emphasized. Course includes specific Chrysler training. Prerequisite: CAPP 110, CAPP 120. Corequisite: CAPP 130. Semester offered: Spring.

CAPP-145 ASE Tests 1 cr.
Sign up for a minimum of two ASE exams and pass one. Semester offered: Spring.

CAPP-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 receive credit and graduate. Any tests passed in CAPP 145 are counted as part of the requirement. Prerequisite: CAPP 145. Semester offered: Spring.

CAPP-150 Chrysler Engines and Related Systems 4 cr.
This course covers the principles and operation of the internal combustion

engine. Internal combustion engines will be properly disassembled with nomenclature identification. All parts will be inspected, measured, and re-assembled. The operation and repair of the lubrication and cooling system will also be covered. Course includes specific Chrysler training. Prerequisite: CAPP 281. Corequisite: CAPP 160. Semester offered: Summer.

CAPP-160 Chrysler Heat and AC Systems 2 cr.
A theory and shop course to teach the student automotive air conditioning and heating systems as they apply to current model Chrysler vehicles. The use of test equipment will be emphasized and the student will learn to diagnose, evacuate, and recharge air conditioning systems. Course includes specific Chrysler training. Corequisite: CAPP 150, Semester offered: Summer.

CAPP-170 Chrysler 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 Chrysler vehicles in the shop. Course includes specific Chrysler training. Prerequisites: CAPP 150, CAPP 160, CAPP 282. Semester offered: Fall.

CAPP-180 Chrysler Brake Systems 4 cr.
A study of the theory and diagnostic repair procedures of Chrysler 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. Course includes specific Chrysler training. Prerequisite: CAPP 170, CAP 283. Corequisite: CAPP 190, Semester offered: Spring.

CAPP-190 Chrysler Steering and Suspension 4 cr.
A theory and shop course to introduce the student to Chrysler steering geometry, front and rear suspension service, wheel alignment, and wheel balancing. Lab work will include instruction on the latest model vehicles' steering and suspension systems. Course includes specific Chrysler training. Prerequisite: CAPP 170. Corequisite: CAPP 180. Semester offered: Spring.

CAPP-280 Chrysler Coop Work Experience 4 cr.
The student will be employed at an approved Chrysler 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 once per week. The student will be supervised and evaluated jointly by his/her employer and San Juan College personnel. Prerequisites: CAPP 110, CAPP 120. Semester offered: Fall.

CAPP-281 Chrysler Coop Work Experience 4 cr.
The student will be employed at an approved Chrysler 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 once per week. The student will be supervised and evaluated jointly by his/her employer and San Juan College personnel. Prerequisites: CAPP 130, CAPP 140. Semester offered: Spring.

CAPP-282 Chrysler Coop Work Experience 4 cr.
Prerequisites: CAPP 150, CAPP 160. Semester offered: Summer.

CAPP-283 Daimler/Chrysler Coop Work Experience 4 cr.
Prerequisite: CAPP 170. Semester offered: Fall.

COMMERCIAL DRIVERS LICENSE

CDLT-150 CDL Composite Class 15 cr.
This eight-week program includes: classroom theory, exams, CDL Motor Vehicle Division (MVD) permit preparation. Students will obtain a MVD permit then receive hands-on instruction including pre-trip inspection, backing skills and highway driving for an operator of a class "A" commercial vehicle in preparation for the CDL Driving exam. Prerequisite: minimum CPT reading score of 55, pass a background check and a drug test before entrance into the program. The student must meet state requirements to obtain a driving permit.

CDLT-161 Professional Truck Driver DDC 0.5 cr.
This professional truck driver defensive driving course is supported through the National Safety Council and is a classroom theory training program structured for commercial truck drivers.

CDLT-162 CDL Short Course 6 cr.
Focus on driving and classroom skills required when acquiring a commercial license for specific qualifying groups of individuals.

CDLT-151 CDL Permit Class 6 cr.
Specific information to assist in passing the NM MVD exams for general knowledge, air brakes and combination vehicles to obtain a Class "A" CDL (Commercial Vehicle) permit.

CDLT-152 CDL Professional Drive Class 2 cr.
Specific information on Commercial Vehicle regulations for hours of service, load securement, weight and balance, and "vehicle out of service" criteria. Also covered are topics related to truck driving safety such as mountain driving, hazard avoidance, bad weather, truck fires and National Safety Professional Truck Driver DDC.

CDLT-153 CDL Class "A" Training 7 cr.
Will prepare students to take the CDL Driving exam in a Class "A" commercial motor vehicle that weighs 26,001 pounds or more. This course includes instructions on vehicle pre-trip inspection, backing skills, tire chain-up, and highway driving.

CDLT-154 CDL Class "B" Training 2.5 cr.
Will cover requirements of a (straight truck) commercial motor vehicle that weighs 26,001 pounds or more. This course will provide instruction on vehicle pre-trip inspection, backing skills, tire chain-up, and highway driving of a straight truck.

CDLT-155 CDL Class "C" Training 2.5 cr.
Will cover requirements of a Class C (straight truck) commercial motor vehicle that weighs 26,000 pounds or less. This course covers vehicles that are required to carry placards (hazardous materials) or is a passenger bus carrying 16 or more passengers.