

MCAG - Mechanized Agriculture Courses

MCAG B2 Introduction to Mechanized Agriculture

3 units

Description: This course covers basic mechanical skills in woodworking, cold metal, electricity, plumbing, concrete, and project construction skills as related to farm maintenance and repair. The use of hand and power tool skills as well as emphasis on safety practices for all mechanical areas are covered. A lab class is required.

Hours: 36 lecture, 54 lab

Transferable: CSU and private colleges

MCAG B3 Small Gas Engines

3 units

Description: This is a complete introductory course in the operation, construction, maintenance, repair, and adjustments of two-cycle and four-cycle engines. It is designed for persons without prior experience in small engines. Theory and practical work, including safety and the care and use of specialized tools used in small engine repair and maintenance, will be covered. Examples of the types of engines to be used will include lawn mower, power saw, pump, conveyor, self-propelled small carts, and any other small engines. Lab required.

Hours: 36 lecture, 54 lab

Transferable: CSU and private colleges.

MCAG B4 Agriculture Safety

3 units

Description: This course involves safety practices and principles, accident causation and prevention in the shop and in the field, as well as with tractors and machinery. Operation, service and normal safety practices common to farming will be stressed, including welding, hand tools, and chemical applicators. Material Safety Data Sheets, Personal Protective Equipment and on-site Worker safety will be explored. Supervised field operation and field trips will be required. Lab required.

Hours: 36 lecture, 54 lab

Transferable: CSU and private colleges.

MCAG B5 Agriculture Irrigation Technology

3 units

Description: An examination of agriculture irrigation systems, Irrigation and drainage problems relating to pumps, motors, sprinkler systems, structures, pipelines, ditches and wells; computation of costs and measurement of water; water law; basic principles of plant-soil-moisture relations, and water movement in soil. Field trips are required.

Hours: 36 lecture, 54 lab

Transferable: CSU and private colleges.

MCAG B10 Farm Power Operation

3 units

Description: This course involves design principles, selection, maintenance, adjustment, and safe operation of wheel and track type tractors and commonly used equipment in agriculture and in the construction industry.

Hours: 36 lecture, 54 lab

C-ID: AG + MA 108L

Transferable: CSU and private colleges.

MCAG B11 Introduction to Diesel Engine Repair

4 units

Description: This course explores the operation and repair of modern diesel engines. Principles and theories are studied by running, testing, diagnosing, disassembling and reassembling components, systems and engines.

Hours: 36 lecture, 108 lab

Transferable: CSU and private colleges.

MCAG B12 Advanced Diesel Engine Repair

3 units

Prerequisites: Successful completion of MCAG B11 with a grade of C or better.

Description: This course explores the operation and repair of modern computer controlled diesel engines, emissions systems and components. Advanced principles and theories are studied by testing, diagnosing, disassembling and reassembling engine components and systems.

Hours: 36 lecture, 54 lab

Transferable: CSU and private colleges. Degree applicable.

MCAG B13 Hydraulics

3 units

Description: This course explores the operation and repair of agricultural and industrial heavy equipment hydraulic systems including: pumps, valves, cylinders, motors, hydrostatic drives, hoses and fittings as well as electronic controls. Advanced principles and theories of operation, pressure and flow are studied by testing, diagnosing, disassembling, repairing and reassembling heavy equipment hydraulic components and systems.

Hours: 36 lecture, 54 lab

Transferable: CSU and private colleges. Degree applicable.

MCAG B14 Heavy Equipment Systems

3 units

Prerequisites: Successful completion of MCAG B13 with a grade of C or better.

Description: This course explores the operation and repair of agricultural and industrial heavy equipment systems including: drive systems, brakes and braking, tracks and tires, auxiliaries, air conditioning, electronics, and computer controls. Advanced principles and theories are studied by testing, diagnosing, disassembling, repairing and reassembling heavy equipment components and systems.

Hours: 36 lecture, 54 lab

Transferable: CSU and private colleges. Degree applicable.

MCAG B48WE Occupational Work Experience Education/ Internship

1-8 units

Prerequisites: Declared major or occupational goal and evaluation of student's qualifications and objectives.

Description: College credit for mechanized agricultural related learning experiences obtained on the job in accordance with a training plan developed cooperatively between the employer, college, and student. Occupational work experience credit may accrue at the rate of 1 to 8 units per semester for a total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit. Repetition allowed per Title 5 55253.

Hours: Non-paid 60 hours for each 1 unit (60 - 480). Paid 75 hours for each 1 unit (75 - 600).

Transferable: CSU and private colleges.