

Equipment List

Agricultural Business Management-Agriscience

Power, Structural & Technical Systems Option E

CIP No. 01.0100.60

The Agriscience classroom should reflect the environment, equipment, supplies and instructional materials students would expect to find in industry.

SAE & FFA Integrated Skills

Options A – G

CIP No. 01.0100

Equipment:

30' x 50' Classroom
Computers (one per two students)
FFA Supervised Agricultural Experience (SAE) equipment
Foldable Table
National FFA Career Development Event (CDE) equipment
Printers (one per five computers)
Stackable Chairs
Whiteboard

Supplies:

Calculators (graphing/scientific)

Instructional Materials:

Bulletin board
Business newspapers
Daily newspapers
Decisions and Dollars Manual
Depreciation forms
Employee evaluation forms
FFA Manual
FFA Student Handbook
Financial management software programs
I-9 Forms
Insurance Information
Inventory forms
Job search records
On-line computer service
Professional job postings
Project Food, Land & People
SAE Program Record and Planning Book

Sales display board
Sample appointment and schedule books
Sample business plan
Sample business plan services contract
Sample buyer-seller contracts
Sample cover letters
Sample income tax forms (individual and business)
Sample job applications
Sample letter of acceptance
Sample letter of rejection
Sample loan applications
Sample resumes
Sample thank you letters
Spreadsheet software programs
USDA Commodity Reports
USDA Governmental Programs Information
W-4 forms
Wall Street Journal
Yellow pages

Applied Biological Systems (ABS) Agriculture
Laboratory-Based Integrated Science I
CIP No. 01.0101.10

Facility/Equipment

Greenhouse – complete with environmental controls and timers
Benches/Tables for greenhouse
Bottom heat for propagating.
Hydroponics systems
Aquaculture system
Wheelbarrows
Fiberglass concrete forms – for benches, etc.
Hand tools – hammers, screwdrivers, socket set, wrenches, tape measurers
Drills – cordless is always good
Skill saw
Concrete/Masonry tools – trowel, float, edger, jointer
Drill press
Band saw
Drill bits, hole saws
Aquaculture water meter (colorimeter kit is good too)
Handheld pH meters
Benchtop pH meter for Biotech/Tissue Culture
Tissue culture grow rack with lights
Laminar Flow Hood (tissue culture)
Tissue Culture chambers
Autoclave
Incubator
Lawn mower
Grinders
Tiller
Fertilizer injectors
EC (electroconductivity) meter
Pipe threader
Pipe cutter – large and small
Propane torches – soldering
Pipe vises (and tables)
Metal tables
Welders – not much help here though
Collapsible saw horses
Lab glassware – beakers, graduated cylinders, bottles
Hot/stir plates
Computers
Drafting boards and equipment (T squares, triangles, templates, etc.)
Books – SRU's from U of A, Plants for

Supplies

Tissue culture supplies – agar, sucrose, nutrients

Ethanol

Pvc pipe

Drip pipe

Copper pipe

Solder

Flux

Block/brick

Soil – mulch, perlite, vermiculite

Plant containers – 1 gallon, 5 gallon, liners

Concrete, cement, sand, lime

Stir bars (plastic coated magnets for stir plates)

Seeds – garden, greenhouse and hydroponics

Hydroponic nutrients

Fish

Fish food

Instructional Materials

SRU's from University of Arizona

Plants for Dry Climates (text)

FFA Handbooks & Manuals.

The following tools and equipment have been assembled to provide guidance to satisfy the **core curriculum** in Agricultural Mechanics Instruction (Options A-G).

CONSTRUCTION/MAINTENANCE

Wood Construction—Machinery

Drill Press 15in.
Saw, Radial Arm 14in. blade
Saw, Table 10in blade

Wood Construction—Portable Electric Power Tools

Cleaner, Vacuum 2HP
Drill, Electric (HI-LO gear) 3/8"
Drill, Electric (Reversible) 3/8"
Router 1 1/2 HP

Wood Construction—Hand Tools

Awl, Scratch 6"
Bar, Nail 10"
Bar, Pry 10"
Bar, Ripping 24"
Bevel, Sliding 8"
Bit, Auger No. 4 – 16
Bit, Expansive 7/8" – 3"
Bit, Wood 1/4 – 1"
Brace, Box Ratchet 10"
Chalk line 50ft
Chisel, Wood 1/4 - 1 1/2"
Clamp, Fixture 3/4" pipe
Clamp, Hand Screw 12"
Clamp, Hand Screw 10"
Clamp, Hand Screw 8"
Clamp, Hand Screw 6"
Countersink 1/2"
Divider, Wing 7"
Drill, Screw setting No. 6-12
Hammer, Nail (curved claw) 13oz
Hammer, Nail (curved claw) 16oz
Hammer, Nail (ripping claw) 16oz
Knife, Putty 1 1/4"
Knife, Utility 6"
Level, Carpenter's 24"
Mallet 16oz
Nail Set 4"
Plane, Block 6"

Plane, Jack 14"
Plane, Smoothing 9"
Pliers, Fencing 10 ½"
Rasp (half round) 14"
Rasp (round) 14"
Rasp (square) 12"
Rule, Tape 5M/16ft
Rule, Tape 30M/100ft
Saw, Hand 26" x 11pt
Saw, Hand 26" x 9pt
Saw, Hand 26" x 5 ½ pt
Screwdriver, Clutch 3"
Screwdriver, Clutch 4"
Screwdriver, Phillips 3"
Screwdriver, Phillips 4"
Screwdriver, Ratchet 25"
Screwdriver, Regular 4" Screwdriver, Regular 6"
Screwdriver, Regular 8"
Square, Combination 12"
Square, Framing 16" x 24"
Square, Framing Metric

Wood Construction—Miscellaneous

Bench, 2 station 28 x 64"
Brush, Bench 8"
Brush, Paint 2"
Brush, Paint 3"
Sharpening Stone 8 x 2 x 1"
Staple Gun ½"
Vise, Woodworking 4" x 10"

Metal Construction—Machinery

Anvil 140#
Bender, Iron
Brake, Metal 48"
Compressor, Air 7.5 CFM
Drill Press 20"
Drill Press Vise No. 3
Forge, Gas Fired 400,000 BTU
Grinder, Bench 6" x ¾" x ½"
Grinder, Floor Stand 12" x 2" x 1 ¼"
Saw, Abrasive cut off 14" blade
Saw, metal Cutting ½" x .024" blade
Shear, metal 3/16"
Shear, metal ½"
Welder, Electric Arc 225 amp
Welder, Electric Arc 250-300 amp

Welder, MIG 150-200amp
Welder, Oxy-acetylene Equipment

Metal Construction—Portable Power Tools

Drill, Electric ½"
Furnace, Soldering 3 burner
Grinder, Right Angle 7"
Grinder, Straight 5"
Impact Tool, Electric 5"
Nibbler 16ga
Saw, Band ½" blade

Metal Construction—Hand Tools

Cold Metal

Caliper, Vernier 5" cap (English meas.)
Caliper, Vernier 5" cap (metric meas.)
Chisel, Cold ¾"
Cutter, Bolt 30"
Dresser, Grinder 12"
Dresser, Grinder 6"
Drill, Twist Fractional (straight shank)
Drill, Twist Number (straight shank)
Drill, Twist Letter (straight shank)
Drill, Twist Fractional (taper shank)
File, Hand (half round) 14"
File, Hand (flat) 12"
File, Hand (mill) 12"
File, Hand (half round) 10"
File, Hand (mill) 10"

Metal Construction—Hand Tools

Cold Metal

File, Hand (round) 12"
File, Hand (round) 10"
File, Hand (square) 12"
File, Hand (square) 10"
File, Card N
File, Hand (3-square) 8"
File, Hand (taper) 6"
Gauge, Drill point 6"
Gauge, Drill size fractional
Hammer, Ball Pein 3/0
Hammer, Ball Pein 1
Marking Stamps (figure) 3/16"
Marking Stamps (letter) 3/16"
Oiler, Bench 1/3 pint
Saw, Hack 10-12"

Saw, Hole $\frac{3}{4}$ " – 2 $\frac{1}{2}$ "
Screwdriver 4"
Screwdriver 6"
Screw plate $\frac{1}{4}$ " – $\frac{3}{4}$ " NC
Screw plate $\frac{1}{4}$ " – $\frac{1}{2}$ " NC
Screw plate machine screw
Square, Combination 12"
Square, Combination (blade square head) 12"
Vise, Machinist's 4"
Wrench, Adjustable 8"
Wrench, Adjustable 10"

Metal Construction—Hand Tools

Plumbing

Bender, Tubing $\frac{1}{4}$ " – 5/8"
Brace, Hand 10"
Cutter, Pipe 1/8" – 2"
Cutter, Tubing 3/16" – 5/8"
Cutter, Plastic pipe $\frac{1}{4}$ " – 2 5/8"
Die, Pipe threading 3/8" – $\frac{3}{4}$ "
Die, Pipe Threading $\frac{1}{2}$ " – 2"
Flaring Tool 3/16" – 5/8"
Handle, Tap $\frac{1}{4}$ " – 1"
Oiler, Bench 1/3 pint
Reamer, Pipe 1/8" – 1"
Reamer, Pipe $\frac{1}{4}$ " – 2"
Saw, Hack 12"
Swaging Tool $\frac{1}{4}$ " – 5/8" OD
Tap, Pipe 1-8" $\frac{3}{4}$ "
Torch, Propane
Vise, Pipe 1/8" – 2 $\frac{1}{2}$ "
Wrench, Pipe 8"
Wrench, Pipe 10"
Wrench, Pipe 12"
Wrench, Pipe 14"
Wrench, Pipe 18"
Wrench, Pipe 24"

Sheet Metal

Awl, Scratch 6"
Copper, Soldering 3 lb
Copper, Soldering 2 lb
Divider, Wing 12"
Gauge, metal
Groover, Hand No. 4
Hammer, Tinnerns 12 oz
Mallet, Tinnerns 20 oz

Pliers, Forming 8"
Riveter, Pop 1/8" – 3/16"
Rule, Steel 1" x 36"
Snips, Tanners (left cut) 10"
Snips, Tanners (right cut) 10"
Snips, Tanners (straight combo) 10"
Square, Combination 12"

Metal Construction—Hand Tools

Welding Hot Metal

Chipping Tool
Clamp 9"
Clamp, C 4"
Clamp, C 6"
Clamp, C 8"
Clamp, C 11"
Cleaner, Tip
Glove, Leather Large
Hammer (ball pein) 24oz
Hammer (ball pein) 32oz
Hammer (blacksmith) 32oz
Hammer 8 lb
Lighter
Pliers 10"

Metal Construction—Hand Tools

Welding Hot Metal

Saw, Hack 10" – 12"
Tongs 3/8" x 20"
Tongs 24"
Vise 5"

Concrete & Masonry—Machinery

Mixer 4 cu ft
Mortar Box 9.2 cu ft
Wheelbarrow 5.5 cu ft

Concrete & Masonry— Hand Tools

Corner Box
Drill, Masonry
Edger 6" x 2 1/2" x 1/4"
Edger 6" x 3 1/2" x 3/8"
Edger 6" x 4" x 1/2"
Float, Bull 42" x 8"
Float, Magnesium 16" x 3 1/2"
Float, Sponge 8" x 4"
Float, Wood 18" x 3 1/2"

Float, Wood 12" x 4 ½"
Groover 6" x 2" x 1/8"
Groover 5 ½" x 3" x 3/8"
Hammer, Electric ½"
Hoe, Mortar 10" width
Hose, Water 5/8" x 50'
Jointer, Brick ½" 5/8"
Level, Masons 48"
Line, Masons 250'
Pads, Knee
Rubbing Brick 6" x 3"
Scale, Weight 100lb
Sieve, Aggregate
Shovel (square point) 10"
Shovel (round point) 9"
Tamper, Jitterbug 36" x 6 ½"
Trowel, Brick 11 ½" x 5"
Trowel, Finishing 12" x 4"
Trowel, Finishing 16" x 4"
Trowel, Margin 5" x 2"
Trowel, Pointed 11" x 5 ½"
Trowel, Pointing 4 ½"

Concrete & Masonry—Miscellaneous

Bucket 5 gal
Can, Oil 1qt

Electrical—Hand Tools

Belt, Cotton Web 2 ¼" wide
Bender ½"
Bender ¾"
Bit, Auger 5/8" x 18"
Bit, Auger ¾" x 18"
Cable Ripper 3 ¾"
GFCI, Portable 15 amp
Hammer, Nail 16oz
Knife 1 blade
Knockout ½ - 1 ¼
Meter, AC Volts 4 ½
Meter, AC Amp 4 ½
Pliers, Diagonal 8"
Pliers, Long Nose 7"
Pliers, Pump 10"
Pliers, Side Cutting 9"
Screwdriver 3/16" x 4"
Screwdriver 3/16" x 6"
Screwdriver #2 x 4"

Soldering Gun 325 watt
Terminal
Tester 0-300amp & 0-600 volt
Tool Pouch 5"
Wire Stripper 5"

POWER AND MACHINERY

Power Tools & Equipment

Charger, Battery 80amp
Cleaner, Parts 45gal
Cleaner, Washer 4 GPH
Creeper, Mechanics
Hoist, Wheel 2 ton
Jack, Axle 4 ton
Jack, Service 1 ½ ton
Paint Spray 1qt
Press, Hydraulic 25ton
Stands, Safety 2 ton

Portable Tester Equipment

Analyzer, Exhaust Gas
Extension Cord 50'
Hydrometer (battery testing)
Hydrometer (radiator testing)
Lamp, Trouble 25'
Tachometer 50-4000rpm
Tester, Battery
Tester, Engine
Tester, Generator
Tester, Ignition
Tester Pressure Cap
Tester, RPM

Hand Tools

Air Hose ¼" 25"
Bar, Drag Link 16"
Bar, Pry ¾" x 24"
Bar, Pry ¾" x 18"
Battery Carrier 17"
Battery Cleaner
Battery Filler 1qt
Brush, Parts 12"
Bushing Driver

Caliper, Inside 8"
Caliper, Outside 8"
Caliper, Micrometer 0-1"
Caliper, Micrometer 1-2"
Caliper, Micrometer 2-3"
Caliper, Micrometer 3-4"
Caliper, Micrometer 4-5"
Caliper 6"
Can Fuel 5gal
Can, Spout 1 & 5 qt
Can, Waste 10 gal
Chain, Binder 3/8"
Chain, Log 3/8" x 14'
Chisel, Cold and Punch 3/4" x 12"
Extractor, Screw No 1-6
Gauge, Dial 1" Range
Gauge, Feeler .004-.027
Gauge, Feeler .04mm-.89mm
Gauge, Point
Gauge, Small Hole 1/8-1/2
Gauge, Telescoping 1/2-6"
Grease Gun 1lb
Hammer (ball pein) 16oz'
Hammer (ball pein) 24oz
Hammer (plastic faced) 16oz
Hose, Water 5/8" x 50'
Oil Measure 2qt
Pliers 10" (combo slip joint)
Pliers 10" (water pump type)
Pliers 16" (water pump type)
Pliers 7 1/2" (diagonal cutter)
Pliers 8" (end cutting nippers)
Pliers 8" (snap ring)
Pliers 8" (lock ring)
Pliers 6" (convertible)
Pliers 8" (hose clamp)
Pliers 10" (lever wrench)
Pliers 7" (parrot nose)
Puller (universal joint)
Puller 13 ton
Punch, Gasket 1/4-5/8"
Punch 1/8-1/4"
Retrieving Tool 26'
Screwdriver 12" (standard blade)
Screwdriver 10" (standard blade)
Screwdriver 8" (standard blade)
Screwdriver 6" (standard blade)

Screwdriver 4" (standard blade)
Screwdriver #3 (Phillips head)
Screwdriver #2 (Phillips head)
Screwdriver #1 (Phillips head)
Screwdriver 3/16 (clutch head)
Screwdriver 1/4 (clutch head)
Screwdriver 5/16 (clutch head)
Wrench, Adjustable 8"
Wrench, Adjustable 10"
Wrench, Adjustable 12"
Wrench, Adjustable 18"
Wrench, Allen .028-3/8"
Wrench, Flat 1/4"-1 5/16"
Wrench, Flat 3/8" -1 1/4"
Wrench, Ignition 7/32 - 7/16
Wrench, Oil Filter
Wrench, Socket 3/4" Drive (square)
Wrench, Socket 1/2" Drive (square)
Wrench, Socket 3/8" Drive (square)
Wrench, Socket 1/2 Drive (deep socket)
Wrench, Socket 3/8" Drive (deep socket)
Wrench, Socket 3/8" Drive (spark plug)
Wrench, Stud Remover 1/4-3/4"
Wrench, Tappet 7/16-11/16
Wrench, Torque 3/8"
Wrench, Torque 1/2"

Small Engine Equipment Tools

Cutter, Valve Seat
Engine, 4 cycle (1 cylinder-3HP)
Hone, Cylinder 1 1/2 - 3 1/2
Hone, Cylinder 2.0" - 2.6"
Tester, Coil
Tools, Basic
Tools, Special
Tools, Special (starter clutch)
Wrench, Torque 3/8"

Soil & Water Management

Arrows (pins) 3/16" x 14"
Auger, Soil 2"
Level, Farm 20 Power
Level, Hand 2 1/2 Power
Level, Universal 26 Power
Pole, Range 8 1/2"
Sampler, Soil 1" x 21"
Tape 100ft

Drafting

Drawing Board 16" x 21"

Scale 12"

Tee Square 21"

Triangle 8" (30 – 60 degree)

Triangle 8" (45 – 90 degree)

Safety & First Aid

Air Nozzle 5"

Brow Bands (Adjustable)

Cabinet, Safety Storage 65" x 43" 18"

Cape, Welders med.

Ear inserts (universal)

Face Shield 6" x 12"

Fire Blanket Standard

Fire Extinguisher 15lb

Fire Extinguisher 10 lb

First Aid Kit 25 student

Glasses, Safety 46-48 mm

Goggles Adjustable (gas welding)

Goggles Adjustable (clear protective)

Helmet Adjustable (head protection—hard hat)

Helmet Adjustable (arc welding)

Respirator, Dust (disposable)

Respirator, Paint Spray

Tape, Anti-slip 2" x 48ft

Tape, Safety Zone 3" x 36 yd

Tape, Warning 1 ½ x 18 yd

Wearing Apparel (100 % cotton twill)

Laboratory-Based Integrated Science II
Power, Structural, & Technical Systems - Option E

CIP No. 01.0100.60

The Power, Structural & Technical Systems Agricultural Business & Management—Agriscience classroom should reflect the environment, equipment, supplies and instructional materials students would expect to find in industry.

Equipment

Ball pein hammer
Cement mixer
Cement screed
Cement tamp
Cement vibrator
Center punch
Chainsaw
Chainsaw Chaps
Chip hammer
Cold chisel
Combination square
Construction level
Cross cut saw
Drill press
Edger
Electric motor
Electrical receptacles
Fence
Fence posts
Fence stretchers
Finishing trowel
Gas metal arc welder
Gas tungsten arc welder
Ground fault circuit interrupters
Hacksaw
Hammer
Hand drill
Hand float
Hand or circular saw
Hand tools
Hard hat
Jointer
Leveling rod
Line level
Magnesium float
Masonry block

Measuring tape
Metal bending equipment
Metal cutting power tools
Metal scribe
Metal snips or shears
Miter box
Mower
Oxyacetylene cutting torch
Paint spray equipment
Pipe cutting tools
Plasma cutting equipment
Posthole digger
Rakes
Rip saw
Scratch awl
Shielded metal arc welder
Shovels
Spark lighter
Steam cleaner
Steel square
Tap and die set
T-bevel square
Torch
Tractor
Transit
Tripod
Truck
Try square
Vise
Volt meter
Welding helmet
Wire brush
Wire cutters
Wiring tools
Wood boring tools
Wood forms
Wood shaping tools

Supplies

Acetylene gas
Bar oil
Broom
Bolt
Cement
Coarse aggregate
Commercial solvent
Concrete

Copper pipe
Ear plugs
Electrical wires
Fine aggregate
Flux
Lumber
Masking tape
Metal
Metal file
Metal primer
Mortar
Nail sets
Nails
Nuts
Oxygen gas
Paint
Paint brushes
Pipe cement
Pipe fittings
Plastic pipe
Plastic, canvas, straw, or sawdust
Plywood
Primer
Reinforcement wire
Safety glasses
Scrap metal
Soapstone
Solder
Staples
Steel pipe
Tungsten gas
Washers
Water
Welding electrodes (SMAW) (GMAW)
Wood screws
Wood stakes
Work gloves
Work shoes

Instructional Materials:

Equipment Operator's Manuals
Wiring plans