

Equipment List

Agricultural Business Management-Agriscience

Plant Systems Option B

CIP No. 01.0100.30

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"
Sheer, 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 $\frac{1}{4}$ " – $\frac{5}{8}$ "
Brace, Hand 10"
Cutter, Pipe $\frac{1}{8}$ " – 2"
Cutter, Tubing $\frac{3}{16}$ " – $\frac{5}{8}$ "
Cutter, Plastic pipe $\frac{1}{4}$ " – 2 $\frac{5}{8}$ "
Die, Pipe threading $\frac{3}{8}$ " – $\frac{3}{4}$ "
Die, Pipe Threading $\frac{1}{2}$ " – 2"
Flaring Tool $\frac{3}{16}$ " – $\frac{5}{8}$ "
Handle, Tap $\frac{1}{4}$ " – 1"
Oiler, Bench $\frac{1}{3}$ pint
Reamer, Pipe $\frac{1}{8}$ " – 1"
Reamer, Pipe $\frac{1}{4}$ " – 2"
Saw, Hack 12"
Swaging Tool $\frac{1}{4}$ " – $\frac{5}{8}$ " OD
Tap, Pipe 1-8" $\frac{3}{4}$ "
Torch, Propane
Vise, Pipe $\frac{1}{8}$ " – 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, Tinnets 20 oz
Pliers, Forming 8"
Riveter, Pop 1/8" – 3/16"
Rule, Steel 1" x 36"
Snips, Tinnets (left cut) 10"
Snips, Tinnets (right cut) 10"
Snips, Tinnets (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 peen) 24oz
Hammer (ball peen) 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 ½"
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
Plant Systems - Option B
CIP No. 01.0100.30

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

Equipment

African Violet Tissue Culture Kit (*Carolina Biological Supply*)
Air compressor
Alcohol burner
Autoclave
Biotechnology Kit: DNA extraction (*Carolina Biological Supply*)
Calculator Based Labs
Carbon Dioxide sensors for graphing
Cauliflower Tissue Culture Kit
(*Carolina Biological Supply*)
Face Shield
Fertilizer spreader
Grow lights
Growing racks/stands
Hach soil testing kits
Hand tools
Handheld GPS Unit w/ local mapping
Harvesting equipment (combine, hay baler, etc.)
Hydraulic jack
Insect traps
Irrigation equipment (pumps, pipe, etc.)
Irrigation pipe or drip irrigation line
Laminar flow hood
Microscope slides w/ root, stem, leaf cross sections
Moisture meter
Moisture tester
Oxygen sensors for graphing calculators (*Texas Instruments*)
Pesticide applicators (dry or liquid)
Pesticide sprayer
pH sensors for graphing calculators (*Texas Instruments*)
Planter
Respirator
Soil probe
Soil sample bags
Soil test results
Tire gauge
Tire shocks
Tires
Tractor
Tractor or other machinery

Supplies

Alcohol
Alcohol burner
Calculators (graphing & scientific)
Cheese cloth
Drip irrigation supplies
Fertilizer spreader
Fungicides
Garden seed packets
Growth media
Herbicides
Insect attractants
Insect collection
Leaf samples
Parafilm
Pesticides
Plants
Plants with disease symptoms
Plants with insect damage
Plants with nutrient deficiencies
Plastic bucket(s)
Rubber apron
Rubber boots
Rubber gloves
Safety glasses
Scissors
Seed
Soil sample bags
Test tube holders
Test tubes
Transfer boxes
Tweezers
Weed plant collection
Work boots
Work gloves

Instructional Materials:

Fungicide labels
Local mapping CD-ROM for GPS unit
Herbicide labels
Maintenance schedules
Operator's Manuals
Pesticide labels
Seed certification information
Seed tags
Soil test results